
FINAL REPORT ON THE SETTLEMENT OF
WAZIRABAD, GUJRANWALA AND
SHARAPUR TAHSILS IN THE
GUJRANWALA DISTRICT,
1909—1913.

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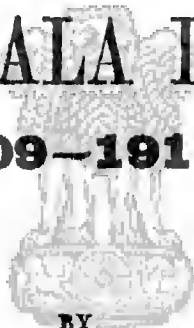
FINAL REPORT

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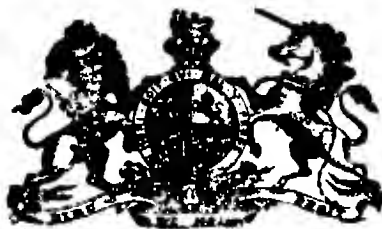


BY

सत्यमेव जयते

I. C. LALL, M.A., I.S.O.,

SETTLEMENT OFFICER.



L a h o r e :

PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRINTING, PUNJAB.

1914.

a very lenient one.

The enhancement in Sharakpur is considerable but there has been a great increase of resources in that tahsil, and the demand only absorbs 11 1/3 per cent of the gross produce.

5. The Settlement Officer has devoted a great deal of labour and trouble to killa-bandi operations, and, though these have taken a long time to complete, the work seems to have been carefully done, and practically no map revision should be required next settlement.

6. The term of settlement which the Lieutenant Governor would be inclined to sanction is (1) for the Eastern Range of Sharakpur and the colony chaks in all three tahsils, 10 years and (2) for the rest 20 years. But there is some danger lest the opening of the Upper Chenab Canal may affect adversely the Chenab Circle of Wazirabad; the Chakhandi circles of Wazirabad and Gujranwala may suffer either from the withdrawal of tenants and cattle to the canal tracts, and in the remaining circles the nahri assessments are only tentative. His Honour considers therefore that the whole position should be reviewed after Rabi 1926 not with a view to enhancement, but in order to afford relief by reduction or redistribution if circumstances show the necessity of such a course.

Meanwhile the working of the settlement which on paper at least is a complicated one should receive careful consideration and constant attention.

7. His Honour agrees that in view of the lengthy killa-bandi operations, the duration of the settlement has not been excessive. It lasted a year longer than was expected but the fact that the actual cost was only 9 per cent in excess of the estimate, shows that work has been performed as economically as possible.

58

Mr. Lall

Mr. Lall is to be congratulated on the careful and conscientious way he has performed his duties. His final report has been prepared under difficulties and does not give a very clear picture of the operations or of the general circumstances of the tract. I am also to express His Honour's appreciation of the thorough work of S. Dalip Singh, Extra Assistant Settlement Officer.

I have the honour to be,

Sir,

Your most obedient servant,

Sd/-

J.P. Thompson,

R e v e n u e S e c r e t a r y .



सत्यमेव जयते

(K.A.Din)

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No. 237.

FINANCIAL COMMISSIONERS' OFFICE.

Dated Lahore, the 12th March 1915.

FROM

J. M. DUNNETT, Esquire,

*Junior Secretary to the Financial Commissioners,
Punjab.*

TO

THE HON'BLE MR. J. P. THOMPSON,

Revenue Secretary to Government, Punjab.

The Hon'ble Mr. A. H. Diack, C.V.O.

SIR,

I AM directed to forward a copy of the final report of the settlement of the Wazirabad, Gujranwala and Sharakpur tahsils of Gujranwala by Mr. I. C. Lall, and of the Commissioner's review, with the following remarks of the Financial Commissioner.

2. The report gives a good description of the tract under settlement and explains clearly both the development which has followed the extension of irrigation from the Lower Chenab Canal and the extent to which irrigation from the Upper Chenab Canal is being introduced. The construction of the latter canal was in progress during the settlement and was the principal reason why the settlement was undertaken when it was. But it will not be in full working order till the Upper Jhelum Canal is opened, *i.e.*, kharif 1915 at earliest. It is because canal conditions necessitate a change that the Sharakpur assessment circles have been re-arranged, not because the old were unsuitable. The immense development, past and prospective, due to the two canal systems, has rendered necessary the division of the district into two, and a scheme for effecting this is now before Government. Additions will be made to the new southern district from the riverain of Lahore and Chunion tahsils, and to both districts from the canal-irrigated tracts of Sialkot.

3. In paragraph 50 of his report Mr. Lall gives up-to-date information of the variations in the cultivated and well irrigated areas. It was due to the adoption of killabandi—a slow though accurate method of re-survey—that these areas were not available for the assessment reports. The main features are a great increase in the total cultivated area in Gujranwala and Sharakpur and a large decrease in chahi cultivation in Wazirabad and Gujranwala, due to the withdrawal of cultivators through emigration to the neighbouring colonies. One of the objects of the settlement therefore was to devise a means of keeping the wells going, but what had to be met was not a case of deterioration. On the contrary and quite irrespective of the advent of the Upper Chenab Canal the condition of these tahsils, which include some of the richest tracts of the province, justified a very substantial enhancement of the existing demand.

4. The table given in paragraph 51 is of little use in showing changes

Cropping.

in cropping, because crops are given in percentages on cultivated area which was calculated in different ways in the two settlements, and because proportions harvested, sown and failed, were ascertained on different principles in the two periods. It is impossible to base on a comparison of percentages drawn from such figures an inference that certain staples have fallen off. A comparison of the actuals of the selected years with the figures in the previous assessment reports shows that the sown area has increased by almost 10 per cent. There has been a decrease of 10,000 acres in Wazirabad, but this has almost been made up for by an increase in Gujranwala, and the gain in Sharakpur has been over 57,000 acres. The increase in the harvested area is small, but the comparison is somewhat obscured by the difference in the nature of the seasons observed at the two settlements. In paragraph 3 of his orders on the Wazirabad report and in paragraph 2 of his orders on the Gujranwala report, the Financial Commissioner (Sir James Douie) based comparisons on a more normal cycle of recent years and showed that there had been a falling-off in chahi crops in the Charkhari and Bangar circles of the latter tahsil, but an increase in total crops; while in the former tahsil a marked decrease had occurred in the irrigated crops and a considerable decrease in the total. The explanation of the deterioration in the effectiveness of well cultivation he found in the loss of men and cattle. In Sharakpur, on the other hand, while well cropping has stood still, there has been a real and general expansion of cultivation of other classes. The chief staples whose cultivation in the two northern tahsils has declined are cane, cotton, maize, jowar, wheat and barley. There has, however, been an enormous extension of the area devoted to gram and mixtures of wheat and gram, and the cultivation of oilseeds is also more important than before.

5. The decrease in population in Gujranwala and Wazirabad was

Population and alienations.

very largely due to plague. In Sharakpur there has been a considerable increase due to the colonization of the Bar. The land-holders are a good cultivating body, especially in the northern tahsils. Sikhs predominate in Gujranwala and Muhammadan Jats elsewhere. The percentage of the cultivated area under mortgage is considerable in Gujranwala (14 per cent.) and Wazirabad (17) and is only a little less in Sharakpur, but has not materially increased since last settlement. Added, however, to the proportion sold (14, 11 and 8 per cent.) it indicates a high rate of transfer though due rather to extravagance on the one side and eagerness to invest in land on the other than to embarrassment, and it is remarkable that Sharakpur, the poorest tahsil, comes best out of the test. Non-agriculturists have not acquired much since the passing of the Land Alienation Act, and a hopeful feature here as elsewhere is the increasing extent of redemption in recent years, as shown by the statistics in the assessment reports.

6. The settlement officer calculates the rise in harvest prices at from

Prices and the rise in the value of land.

36 to 77 per cent. In dealing with the assessment reports of Wazirabad and Gujranwala, Sir James Douie put the rise at 20 to 25 per cent. because he mistrusted the great rise in recent years. It was maintained however up till the beginning of the war, and the Settlement Officer was right in putting the real rise at not less than 36 per cent. Even that estimate is not commensurate with the large increase in the value of land. In Sharakpur and Gujranwala the price of land has doubled or trebled itself in the last twenty years, and in Wazirabad also the appreciation has been considerable.

7. Railway facilities, which were confined to the main line at last

Communications.

settlement, have now been extended to nearly all corners of the district, and with the development of irrigation from the new canal must be still further extended in the west centre. Sharakpur Tahsil head-quarters alone remain untouched and partly for that reason are likely to be abandoned for a more convenient centre when the tahsil is divided into two, with the head-quarters of the

northern portion at Muridke, as contemplated in the scheme for dividing the district into two.

8. In his account of the calculations on which the assessments are based the settlement officer has discussed only the estimate based on the produce, and has omitted both the half assets estimate based on cash rents and the Financial Commissioner's estimates of true half assets. Cash rents are important in the two northern tahsils and in the Sharakpur Rohi, and at least in Gujranwala furnish much the best guide. In circles where they are of importance their pitch is from 22 to 69 per cent. above that of last settlement. The estimates from rents in kind were based on quinquennia which in Sharakpur the Financial Commissioner found to give a suitable result, but in the other two tahsils were less representative of normal cropping than the three years, 1905-06, 1908-09, and 1909-10, which Sir James Douie preferred. The yields adopted were suitable, and the batai rates representative of the proportions in which the produce is usually divided between owner and tenant. It is, however, extraordinary that the rates of rent in kind should be the same on chahi as on barani in Gujranwala and Wazirabad, while in Sharakpur they are differentiated. Deductions on account of payments to menials were not only put at less than at last settlement, but at less than in neighbouring districts simultaneously under settlement. Payments from irrigated crops were estimated to be from 5 to 9 per cent. of the gross produce and from barani crops from 2 to 4 per cent., no deduction being made in the case of dry cultivation in Sharakpur. The commutation prices used in the produce estimate were very much on the moderate side. Rates of Rs. 4-10-0 per maund for cotton and Rs. 2-2-0 for wheat are much below the prices which are likely to prevail in normal times. The estimates framed in these ways gave ample information for the calculation of true net assets, and a fair measure of a full demand was found to be Rs. 3,55,000 in Wazirabad, Rs. 5,50,000 in Gujranwala, Rs. 3,63,000 in Sharakpur and Rs. 12,68,000 for the three tahsils.

9. As Sir Michael O'Dwyer expected when he assessed the two northern tahsils the demand has proved to be moderate and the assessment has worked well. In Sharakpur Mr. Walker's assessment was lenient, but not unduly so. The tahsil was especially liable to suffer from drought and lost heavily in cattle in the famine years when some measures of famine relief were also called for. Hence remissions amounted to the equivalent of a year's demand. The increase from Rs. 1,40,000 to Rs. 1,71,000 in the assessment of this tahsil during the term of settlement was due to the extension to its Bar circle of Lower Chenab Canal irrigation.

10. There was not as much delay in obtaining Government's orders on the assessment reports as paragraph 63 might seem to imply. The Wazirabad assessment report was printed in November 1910, the Gujranwala report in September 1911 and that for Sharakpur in December 1911. The orders of Government on them are dated June 1911, May 1912 and June 1912, respectively, and were in ample time to enable the Settlement Officer to distribute the new demand in September 1912 when his killabandi figures became available which (except in Sharakpur) gave very different areas of the various classes of cultivation from those in the latest jamabandis. Wazirabad tahsil was assessed first. The new demand of Rs. 2,59,748, which includes the estimated normal yield of the assessment of estates under fluctuation, is an increase of 16 per cent. on the demand of 1909-10. It represents 74 per cent. of true half net assets and absorbs 14 per cent. of the gross produce. The highest rate of increase is in the Bangar circle where the enhancement is 25 per cent., but in that circle and in the Charkhari the introduction of the new demand has been postponed till Rabi 1915, because it was thought best to await the completion of the Nokhar Branch of the Upper Chenab Canal.

11. For each tahsil the settlement officer has given not only the average rate of fluctuating assessment for each circle but also the actual system of assessment of canal-irrigated land.

rates used in differentiating from village to village. In the Wazirabad tahsil canal water is not meant to be applied to old cultivation and the rates for nahri crops will be paid only on land now waste, though land already cultivated, if it happens to get canal water, will pay the rate in addition to the fixed assessment. From the Settlement Officer's account it appears that he imposed his rates of fluctuating assessment on matured areas in the case of all non-nahri crops in all three tahsils and of nahri crops on the Lower Chenab Canal in Wazirabad, but on sown areas on Upper Chenab Canal irrigation in all three tahsils and on Lower Chenab Canal irrigation in Sharakpur. This is contrary to the intention of the orders passed which was that (1) at this as at other re-settlements of Lower Chenab Canal irrigation, which is now so well established that it is unnecessary to allow from field to field for crop failure, the assessment should be on the sown* area and (2) on Upper Chenab Canal irrigation as on other new canals, the assessment should begin with like that of barani crops be on the matured† area. But the Financial Commissioner proposes to leave in operation the arrangement announced by the Settlement Officer. As far as it affects the Lower Chenab Canal, it merely maintains the same practice in Wazirabad as is observed in Hafizabad and Khangah Dogran. The nahri rates sanctioned for the Upper Chenab Canal are sufficiently light to be suitable for application to the sown area, and it will be sufficient to provide that in years of extensive crop failure, due either to short supply or to widespread calamity (such as the floods of 1914-15), the assessment shall be on the matured instead of on the sown area. It has been ascertained that under the arrangements introduced by Mr. Lall occupiers' rates also are on the Upper Chenab Canal being charged on the irrigated, not the matured, area.

12. The assessment of Gujranwala which is (1) wholly fixed or (2) wholly fluctuating or (3) partly fixed and partly fluctuating according to the level of the water table is calculated to yield on normal cropping of the present cultivated area a demand of Rs. 3,82,595 or 20 per cent. in excess of the demand of 1909-10. It will absorb 69½ per cent. of true half net assets and less than 10 per cent. of the estimated value of the gross produce. Enhancements will be 19 per cent. in the Charkhari, 16 per cent. in the Bangar and 30 per cent. in the Bar, and the proportions of the half net assets appropriated will be 75, 61 and 70 per cent., respectively.

13. The announced and estimated demand in Sharakpur is Rs. 2,87,681 or 66 per cent. in excess of the demand of 1909-10. It represents 79 per cent. of the true half net assets, and 11½ per cent. of the gross produce. The report explains clearly and concisely how it has been differentiated from village to village. It does not appear, however, that the retention of fixed assessments in certain villages of the Eastern Bangar, which was contrary to the sanctioned method of assessment though not to the spirit of the orders passed, was ever reported for approval.

14. As a fluctuating assessment has been given to nearly all the cultivation except the well estates of the Charkhari and the Bangar, the distribution of the fixed assessment resolved itself into a well-to-well assessment, and this was obviously done with very great care.

15. The revised instalments in which the demand is collected are an improvement on the old as are also the dates fixed for payment. The advent of the Upper Chenab Canal nearly annihilates the insecure area and simplifies preparation of the scheme for suspensions and remissions. But it may affect the present secure well tract injuriously and the withdrawal of water from the Chenab may affect the riverain. These tracts must be watched and in their interest alone it will be well to have a short term of settlement.

16. In paragraph 80 of his report the Settlement Officer recommends that the term of settlement should be 20 years, but the matters detailed there

*Paragraphs 25 and 27, Financial Commissioner's review, Sharakpur Report.
†Paragraph 19, Sir James Douie's note on the Upper Chenab Canal.

seem to the Financial Commissioner to point to such a term for all three tahsils that they may run out with Khangah Dogran and Hafizabad, and the Commissioner has independently arrived at practically the same conclusion. The Khangah Dogran and Hafizabad assessments have still 10 years to run. If the new assessments are to expire in Rabi 1924 the term will be 12 years in Gujranwala and the Chenab circle of Wazirabad, 10½ years in the Muridke and the new Sharakpur tahsils and 10 years in the Charkhari and Bangar of Wazirabad. The Financial Commissioner recommends that the term of settlement be till Rabi 1924 inclusive, but it should be understood that re-settlement when that date is reached should, unless anything unforeseen happens, be limited to (1) resettling completely Khangah Dogran, Hafizabad and the Eastern Bangar of Sharakpur and also the Colony chaks of the Sharakpur Bar; (2) revising the Upper Chenab Canal rates, if necessary, in Wazirabad, Gujranwala, Muridke and Sharakpur and the Lower Chenab Canal rates in Wazirabad, and (3) seeing if any measures of relief are necessary in the Chenab circle or the Charkhari or elsewhere. As the Settlement Officer observes, his killabandi maps will simplify revision and reduce it to a revision of assessment.

17. A full description of the process of killabandi is given in chapter

Killabandi.

III which will be useful for reference both to the Deputy Commissioner and also to settlement officers and colonization officers of other districts who may have to adopt this method. Mr. Lall was a vigorous and patient apostle of killabandi and succeeded in pushing it through in nearly the whole tract. It was not required for canal purposes in all this area and it protracted the settlement unduly, map and record work for the three tahsils lasting a full four years. It also caused great delay in the carrying out of partitions which were exceptionally numerous because of the advent of the canal, as they had to be held over till the killas had been allotted, and a legacy of 763 cases was left at the end of the settlement for the disposal of which a special staff was necessary for 1½ years. But the result of killabandi is a map that ought to last for ever, and if this expectation is realised there is no room for regret. Infinite patience was given by the staff to the arrangement of details of exchanges and the settlement of objections, as the Financial Commissioner knows from his own inspections, and without it killabandi would be impossible. The work was much facilitated by the rectangular survey which preceded it in the canal commanded area.

18. There is nothing unusual in the form of the record. The large variety

The revision of the records.

of soils in the soil classification was agreed to in deference to the Settlement Officer who thought it would be helpful in facilitating killabandi exchanges and also in determining the distribution of canal water, some soils for instance being suitable for rice only. Entries in quadrennial jamabandis will not be made in so great detail. In paragraph 45 the settlement officer brings to notice that previous revenue administration was very defective in the matter of recording mutations. Killabandi has provided a map the periodic correction of which is made extremely simple, and care should be taken that the remaining parts of the record are not allowed to fall out of date. Composite district maps will be prepared when the new district is formed.

19. Miscellaneous work included an enquiry into revenue assignments,

Miscellaneous.

the regrading of patwaris, and a revision of the zaildari system with varying rates of fixed remuneration. In connection with assignments the important question of the right of jagirdars to increases of assessment due to canal irrigation arose, the point for decision being the practical application of the general principles approved by the Government of India in the Mananwala case. It was decided by Government (Punjab Government No. 42, dated 19th March 1914) to allow the jagirdar (1) all fixed assessment which he enjoys at present and in addition (2) the total amount of all fluctuating assessments on chahi and barani crops in jagir estates, and (3) the amount obtained by apply-

ing to the area of nahri crops in each such jagir estate under fluctuating assessment the barani crop rate sanctioned for the estate—the difference between that amount and the total fluctuating assessment of the nahri crop rate sanctioned for the estate being treated as khalsa and credited to Government. The Riwayat-i-Am has been revised and an English Manual prepared. The publication of the gazetteers has been deferred till the new districts are formed. As observed by the Commissioner in paragraph 10 of his review the alluvion and diluvion rules require consideration in the light of past working and the additions which have been found necessary in Sialkot. A copy of the Sialkot rules will be supplied to the Deputy Commissioner and he will be asked to take up the question.

20. Although the duration of the settlement was four years instead of three as originally estimated the cost was only 9 per cent. in excess of the estimate, and in view of the permanence of the resulting map and records the excess duration may be condoned.

21. The settlement and the rectangular survey which preceded it were carried out by Mr. Lall in a business-like and thorough manner, and his report is good and clear. By 11 years' hard and conscientious work as a settlement officer he has well earned the appointment of Deputy Commissioner which he now holds, and he had the honour of receiving the Imperial Service Order in 1912. Sardar Dalip Singh had an exceptionally hard task as extra assistant settlement officer and did well both in that capacity and also in winding up the settlement as settlement officer after Mr. Lall's transfer from the district. He received the title of Sardar Sahib on January 1st. The tahsildars were picked men and justified their selection and they have received their reward in the shape of a transfer to the less onerous executive charge of the tahsils of which they conducted the settlement.

I have, etc.,

J. M. DUNNETT,

Junior Secretary to the Financial Commissioners, Punjab.

नमो भगवते वासुदेवाय

Note by the Commissioner, Lahore Division, on the Settlement Report of the Gujranwala, Wazirabad and Sharakpur Tahsils.

THE tract with which the report deals is 2,112 square miles in area and lies between the Chenab and Ravi rivers, though it nowhere actually touches the latter.

The Sharakpur tahsil has only formed part of the Gujranwala district since 1910. In Wazirabad and Gujranwala the old agricultural division north and south between the more highly developed Charkhari uplands and the less prosperous lands to the east holds good, and no change has been made in assessment circles.

The advent of the Upper Chenab Canal has necessitated changes in Sharakpur, and these were sanctioned in terms of paragraph 34 of the Financial Commissioner's Review of the assessment report on that tahsil. The principle followed was to divide perennial from kharif irrigation (involving eventually a division of fluctuating from partially fixed assessments) and in the old Bar Circle to separate Upper Chenab Canal irrigation from Lower Chenab Canal irrigation.

The construction of the Deg Diversion Bund and the consequent interference with irrigation from the Nala also made certain minor changes necessary.

Irrigation from the new canal must of course make a great difference to a tract the rainfall of which, though sufficient, leaves no margin to compensate for untimely distribution, and it has been perhaps the Settlement Officer's chief difficulty that he has had to foresee and legislate for the changes which will arise from this revolution.

2 The fiscal history of the tract has not been a happy one, the Sikh exactions were very heavy, the Summary Settlement of Wazirabad and Gujranwala was scarcely less so, the distribution at the Regular Settlement of 1853—56 was unequal, though the total burden was lightened. The revised settlement of 1868 was more successful, but there were several bad years during its term, and frequent changes in Deputy Commissioners did not help matters. However in 1892-93 Mr. O'Dwyer felt himself able to take roughly a 25 per cent. increase in Wazirabad and Gujranwala and thought his demands moderate. In this he appears to have been right: the total of remissions in these two tahsils is small and of suspensions not large for a tract liable to considerable fluctuations in the quality of its harvests.

Mr. Casson Walker only raised the demand by 1 per cent. in Sharakpur. Suspensions and remissions have nevertheless been freely given, the latter, as Mr. Lall says, too freely in view of the power to pay up suspended revenue exhibited by the tahsil.

3 Mr. Lall's description of the methods employed in carrying out killabandi will be found in Chapter III of the report. It should be most useful for future reference and is very clear. Killabandi entailed much extra work and doubtless prolonged the time taken over the settlement, but in my opinion results have justified most thoroughly the expenditure both of time and money.

Mr Lall in section 98 holds that it is not much more expensive than ordinary map revision.

Mutation work during settlement was very heavy in addition to the vast quantity made necessary by killabandi, and considerable arrears accumulated during the period preceding the beginning of operations and afterwards.

4. In the first part of Chapter IV of his report, Mr. Lall discusses the statistics bearing on assessment. The two subjects first dealt with are not particularly encouraging. Well cultivation has sensibly decreased and so

have the areas sown and harvested annually, while the poorer crops have gained at the expense of the more profitable, even in Sharakpur where in other ways efficiency of cultivation has managed to maintain its previous level.

Mr. Lall puts this falling off down to the decrease in population, and a comparison of the Sharakpur figures in paragraphs 51 and 52 of the report with those of the other two tahsils seems to bear him out. However, a decrease in population means fewer mouths to feed as well as fewer hands to work, and matters will doubtless adjust themselves. But the real justification for a rise in the assessment apart from the large question of canal irrigation must be found in the rise in prices both of land and produce and in cash rents.

Paragraphs 54, 55 and 57.

Mr. Lall observes that the prices assumed by him are low for some staples, but they are not, generally speaking, low compared with the prices assumed in Gurdaspur,—*vide* Mr. Kennaway's final report, paragraph 34. They are low as compared with prices assumed for the colony lands of the Rakh Branch. He estimates the rise in assumed price at 36 per cent., 38 per cent. and 44 per cent. for the three tahsils, respectively. He has also raised in many cases the outturns per acre above the figures taken by Mr. O'Dwyer and Mr. Casson Walker.

The Settlement Officer's resulting half-net assets exceed those calculated at last settlement by over 200 per cent. in Sharakpur and by 54 per cent. in Gujranwala, but only by 9 per cent. in Wazirabad. The last-named tahsil shows a singularly small increase in all circles, notably in the Charkhari circle where conditions have been almost stationary.

Cf. Paragraph 61.

The large increase in Sharakpur is due partly to the increased cultivation in the Bar on the Lower Chenab Canal and partly perhaps to Mr. Casson Walker's lenient treatment of the tahsil.

As was observed in Mr. O'Dwyer's report (paragraph 110), cash rents are a feature of the Gujranwala district, and though they have not as a whole increased in popularity as was thought likely in the Settlement Commissioner's letter No. 3178, dated 12th October 1908, they show a considerable rise in value almost everywhere in Wazirabad and Gujranwala. Here they were a valuable guide to assessment.

Their convenience and the custom of realizing them in full naturally causes them to give a lower rate per acre than kind rents.

Paragraph 62.

5. In the second half of Chapter IV will be found a convenient summary of the various assessment reports and of the rates and revenue imposed. The system of assessment by zones in the tracts to be irrigated and the necessity for differentiation between land to be irrigated by perennial and by kharif channels have produced a somewhat complicated result. It does not, however, seem necessary here to go further into the question, as it has been fully discussed in the various assessment reports. The net results of re-assessment are given in paragraph 72 of the present report.

Vide paragraph 9.

6. The ultimate division of the work of assessment between the Revenue and Canal authorities is inevitable, but it does not seem advisable to make the changes piece-meal, before irrigation boundaries become fixed. Mr. Lall's statement in paragraph 76 that the local rate has been reduced by 5 per cent. seems to be deduced from Punjab Government letter No. 1750 S. (Finl.) of 6th August 1913. The deduction is not a correct one.

Paragraph 76.

7. The Hafizabad settlement expires in 1924-25. This tahsil, with Wazirabad and Gujranwala, will form the northern of the two districts into which Gujranwala is to be divided. Mr. Lall's supposition that the tahsils

Paragraph 80(f) and Government of India letter No. 90—226-4 of 21st January 1910.

Paragraph 80 (f).

of Hafizabad and Khangah Dogran would be cut up is contrary to the final proposals. If the future settlement of the whole of the new district of Gujranwala is to be taken up at the same time and a 20 years term is given to Wazirabad and Gujranwala, Hafizabad will enjoy a term of over 25 years.

Paragraph 80 (c).

Wazirabad Tahsil is entirely in C zone, and Mr Lall states the dangers of a long term of settlement. The introduction of Upper Chenab Canal irrigation has materially altered the conditions throughout the Wazirabad and Gujranwala tahsils, and it seems to me that the term of settlement might be arranged so as to permit of a new settlement being introduced in Hafizabad in 1924-25 and Wazirabad and Gujranwala immediately afterwards, the tahsils being taken up for reassessment in the order named. As regards Sharikpur, the Financial Commissioner gave it as his opinion in paragraph 38 of his review of the assessment report that the Eastern Bangar should be reassessed after ten years and that the Colony Chaks should be given the same term as Gugera Circle II. The rest of the tahsil will be in the same district as the Khangah Dogran tahsil (old portion) the term of which expires in 1924-25 and as the Lower Chenab Colony villages of the existing Gujranwala District. I think that as conditions are undergoing radical change, it may be possible to take up the reassessment of the whole new Shoikhupura district so as to fit in with the longest term hitherto sanctioned for any portion thereof. This longest term is I think that finally approved for the Rakh Branch villages.

8. In Chapter V Mr. Lall describes the method adopted in distributing the demand over holdings. As he remarks in paragraph 83 the system must have involved immense labour for the staff, and certainly took a great deal of time, with the result that the *bachh* was not ready for months after the date for collection had passed. However, there was no difficulty in final recovery, and the distribution was well done.

9. As regards paragraph 87 of the report, I would remark that orders on this point were communicated in Punjab Government letter No. 42 Revenue, dated 19th March 1914

10. The alluvion and diluvion rules sanctioned at last settlement were, I observe from Mr. O'Dwyer's report, those sanctioned for the Rawalpindi Division, and the same as those in force in Sialkot,—*vide* page 71 of Captain Dunlop Smith's Settlement Report on Sialkot. Mr. Boyd found it necessary to propose alterations, and certain alterations were sanctioned by Financial Commissioner in letter No. 182 S., dated 17th June 1914. The same difficulty has been found in Gujranwala as was noted by Mr. Boyd in his letter No. 267, dated 23rd December 1913, and I think that same change should be made in Wazirabad if only to the extent of the addition of a rule similar to rule 10, sanctioned by Financial Commissioners for the Sialkot district.

11. Vast arrears of partition work were left over after settlement and

Paragraph 97.

necessitated a special staff. Government in their letter No. 126 Revenue, dated 19th November 1913, sanctioned the retention of the services of Bhai Dalip Singh and three Naib Tahsildars for six months from 1st October 1913. This sanction was extended for another three months by Punjab Government No. 62 Revenue, dated 7th April 1913. The partition staff has now been reduced to one Naib Tahsildar and his Muharrir, sanctioned for six months from 1st July 1914.

Punjab Government letter No. 3644 S. Rev., dated 23rd September 1913.

12. The necessary work on the Riway-i-Am was done by Bhai Dalip Singh. The questions followed the form used in the case of the Gurdaspur Settlement of 1912.

Paragraph 96.

13. I concur in Mr. Lall's estimate of Bhai Dalip Singh's honesty and impartiality, and he did good and careful work on partitions and in other operations connected with the closing of the settlement after the Settlement Officer's transfer to Muzaffargarh.

Paragraph 99.

CHAPTER I.—Descriptive.

1. The tract included in this settlement consists of the three tahsils of Wazirabad, Gujranwala and Sharaqpur, of which the last belonged to the Lahore district up to 1st October 1910, when it was attached to the Gujranwala district. It lies between the Chenab and Ravi rivers, being a portion of the Rechna Doab, and is bounded on the north by the Chenab, across which lies the Gujrat district, on the east by the Sialkot district, on the south by the Lahore and Chunian tahsils of the Lahore district, and on the west by the Khangah Dogran and Hafizabad tahsils of this district. On the south-west corner small portions adjoin the Lyallpur and Montgomery districts. The total area and details by tahsils according to the latest figures (1911-12) which give the new survey results for nearly the whole tract except a few estates, are :—

Tahsil.	Number of estates.	Total area.	Total cultivated.	Chahi and abi.	Nahri.	Others.
Wazirabad	264	296,695	180,380	109,180	7,557	49,663
Gujranwala	444	463,902	308,223	163,052	Nil	145,171
Sharaqpur	420	571,361	213,755	117,873	49,823	46,059
Total	1,134	1,331,958	682,358	390,085	57,380	234,893

The total area in square miles is 2,112. Of the estates shown above, 2, 3 and 20, respectively are Government reserves.

2. The country is a level plain with the upland or bar in the centre sloping down to the Chenab valley on the north and the Deg and Ravi valleys on the south. The general slope is from north-east to south-west and several *nullahs* cross the country in that direction. The main ones which influence agriculture are —

Drainage.

- (a) The Palkhu in the Chenab circle of Wazirabad.
- (b) The Aik or Nandanwah which runs through the Wazirabad tahsil into Gujranwala and gets lost there.
- (c) The Khoth nullah a local drainage channel in the south of Gujranwala tahsil.
- (d) The Deg and its branches and off-shoots like the minor Deg, the Bhed and Lailah, Chitrang and Nangwah in the Sharaqpur tahsil.
- (e) The Anni nullah taking out of the Ravi in the south-western portion of Sharaqpur.

All these confer much benefit, but when there are heavy floods, especially in the winter, large areas of crops are submerged and destroyed. In order to protect the Upper Chenab Canal from the floods of the Deg and other *nullahs* in the Sharaqpur tahsil, a large embankment has been made from Dhingan to Sharaqpur to divert the floods into the Ravi river. South-west of this

embankment no water will escape into the Deg, Chitrang, Nangwah and Anni nullahs, canal irrigation taking the place of the uncertain nullah irrigation by *jhallars* and inundations.

3. The country naturally divides into four tracts, *viz.*, the low-lying narrow riverain tract along the Chenab river on the north, the uplands in the centre, the Deg valley south of this, and the Ravi tract along that river.

Assessment circles, Gujranwala and Wazirabad.

For assessment purposes the uplands and Deg tract have been subdivided with regard to soil and irrigation facilities. The eastern portion of the uplands in both Wazirabad and Gujranwala tahsils adjoining the Sialkot district is very highly developed and has a large proportion of well irrigation and is called the Charkhari. The western portion in Wazirabad and central in Gujranwala comes next and is termed the Bangar. The remaining south-western bit in the Gujranwala Tahsil is the Bar.

Thus the assessment circles in the Wazirabad tahsil are the Chenab, the Charkhari and the Bangar, and in the Gujranwala tahsil the Charkhari, Bangar and Bar. These were fixed at the last settlement and have been retained in this settlement without any alteration.

4. The upland portion comprised in the Sharaqpur tahsil is situated on the south-west and is called the Bar. The riverain tract along the Ravi river, but not touching it anywhere was called the Gasrah circle at the last settlement. The rest of the tahsil being the Deg valley was divided into two circles, the eastern called the Rohi and the western Kalrathi. These names based on soils were not suitable and have now been changed. On account of canal irrigation and system of assessment introduced into this tahsil the assessment circles have been radically altered. The estates of the old Kalrathi circle east of the Deg diversion embankment have been transferred to the old Gasrah circle which will be called the Khadir circle. The rest of the Kalrathi circle has been divided into the southern and eastern Bangar circles, the former containing all the estates which will get perennial irrigation from the canal and assessment wherein will be made by the canal department, and the latter containing the estates where canal irrigation will be for *kharif* only and fluctuating assessment will be done by the revenue department. The old Rohi circle will be called the northern Bangar, and those estates thereof which have had to be given fluctuation on account of the Deg diversion have been transferred to the eastern Bangar circle.

Assessment circles, Sharaqpur.

The Bar circle has been divided into eastern and western; the former including all irrigation from the Upper Chenab Canal and the latter that from the Lower Chenab Canal. These new assessment circles will be brought into effect from 1912-13.

5. The soils in this tract are very varied and patchy. *Rohi* (sweet clay), *missi* (loam), *kalrathi* (sour clay), *maira* (sandy loam) and *tibba* (sandhills) exist all over in scattered plots, and all the soils are found in some estates. On the whole good *rohi* and *missi* prevail in the Charkhari circles, *maira* and *tibba* in the Wazirabad and Gujranwala Bangars, *rohi* and *kalrathi* in the Bangar circles of Sharaqpur, and *missi* in the Bar circles of Gujranwala and Sharaqpur. The Wazirabad Chenab and Sharaqpur Khadar circles are regular mixtures.

Soils and vegetation.

The fear expressed by Mr. O'Dwyer in paragraph 14 of his settlement report regarding water-logging has unfortunately come true. The mischief has extended to the western portion of the Wazirabad tahsil, and several estates of the Bangar and Chenab circles which get canal irrigation or are in the vicinity have become water-logged, large areas having become unculturable.

The injury is gradually extending but measures for checking it are in hand.

6. The average annual rainfall as given in the assessment reports is as follows :—

Rainfall.

		<i>Monsoon.</i>	<i>Cold weather.</i>	<i>Total.</i>
Wazirabad	...	18	5	23
Gujranwala	...	19	5	24
Sharaqpur	...	18	8	16

The figures for the last two years, *i.e.*, 1911-12 and 1912-13, are —

			MONSOON.		COLD WEATHER.		TOTAL.	
			1911.	1912.	1912.	1913.	1911-12.	1912-13.
Wazirabad	...	...	7	14	4	2	11	16
Gujranwala	...	...	8	18	4	4	12	22
Sharaqpur	...	...	4	12	2	3	6	15

The year 1911-12 was a disastrous one and even 1912-13 below normal. Bad seasons have been pretty frequent of late, and in eleven out of twenty years rainfall in September, which is the most important, was either *nil* or nominal.

The total average rainfall is sufficient for this tract, but there are violent fluctuations. In some years damage is caused by excessive rain and consequent floods ; in others, and much oftener, the amount is quite insufficient or badly timed and crops suffer and cattle die for want of fodder. Timely and sufficeint rain is indispensable for the large *barani* areas, especially in the Gujranwala Tahsil, but is also very necessary for success of irrigated crops.

7. A great change has taken place in this tract since last settlement by the construction of the Upper Chenab Canal and extension of irrigation from the Lower Chenab Canal to sixteen estates of the Wazirabad Bangar and the western half of the Sharaqpur Bar circles, the former being for *kharif* only and confined to rice and the latter being perennial.

The Lower Chenab Canal takes off the Chenab river at Khanki in the Wazirabad Tahsil and runs south-west about 26 miles in the tahsil before entering Hafizabad. Irrigation in Wazirabad is from two *kharif* channels and confined to 16 estates of the Bangar circles.

The Main Line of the Upper Chenab Canal which is nearing completion enters the Gujranwala Tahsil at Gagewali and runs down south-west into the Sharaqpur tahsil which it leaves at Khakh, falling into the Ravi river a couple of miles further.

A large number of distributaries are taken off both sides for irrigation in the Gujranwala and Sharaqpur tahsils, most of those on the right being for perennial irrigation and those on the left for *kharif* only.

8. The Raya Branch of the canal is a *kharif* one only and is taken off in the Sialkot district and is expected to enter the Sharaqpur tahsil at the south-east corner and run down west towards Sharaqpur. The irrigation will be confined to the south-east corner of the Gujranwala tahsil and practically all the estates of the Sharaqpur tahsil east and south of the main line and the Deg diversion embankment.

The Raya and Nokhar Branches.

Thus far only a small length has been constructed in the Sialkot district from which one distributary did some irrigation in the *kharif* of 1912.

The Nokhar Branch, construction of which has been finally sanctioned but not begun yet, is also to be a *kharif* channel only. It will take off from the main line in the Sialkot district and run through the Wazirabad tahsil, irrigating all the estates of that tahsil south and east of the Wazirabad-Khanewal Railway and the main line of the Lower Chenab Canal, and some estates of the Gujranwala tahsil on the northern border. The whole of the Gujranwala and Sharaqpur tahsils will be commanded by the canal.

9. It has been decided that in all the estates of the Wazirabad tahsil and those of Gujranwala and Sharaqpur east of the railway line from Lahore to Wazirabad and also in all others where the depth of the spring level does not exceed 30 feet, the irrigation from the canal will be for *kharif* only, will not be given to well lands, and will as far as possible be limited to waste lands. The general proportion of such irrigation will be 25 per cent. of the culturable area.

For the rest of the tract, in estates where the depth of the spring level exceeds 30 feet but does not exceed 35 feet, the irrigation will be perennial and will be given for such proportion as together with actual well-irrigated lands in the estate will make up 75 per cent. of the culturable area.

In the remaining estates the irrigation will be perennial and for 75 per cent. of the total culturable area. Roughly speaking, all the canal irrigation will be for *kharif* only in the Wazirabad tahsil, the portions of the Gujranwala Tahsil east of the railway line and on the northern border, and all the Sharaqpur tahsil east of the Main Line and the Degembankment; whereas all the rest will be perennial. These zones are illustrated on the map.

Canal irrigation will cause a revolution in the agriculture of the tract, rendering the insecure portions secure and largely benefitting the rest, but the highly developed well estates where there is no waste and which have been the most secure ones in the past are likely to be injuriously affected by their tenants being attracted to canal-irrigated tracts.

10. Communications have improved considerably in all three tahsils since last settlement. The Wazirabad-Khanewal railway runs through the length of the Wazirabad tahsil; the Shahdara-Sangla and Chichoke-Shorkote lines traverse the Sharaqpur tahsil, and have brought the furthest tracts in all tahsils from over 40 miles to within 16 miles of railway stations. On the old line Lahore to Peshawar also several new stations have been opened and have facilitated trade. The road from Gujranwala to Hafizabad has been metalled throughout and that from Shahdara to Sharaqpur has also been metalled, but is in bad order already. There are sufficient unmetalled roads all over, but most of them have not been repaired for years and some of them are unfit for wheeled traffic and at times even difficult for camels, horses and donkeys. Most of the traffic is carried by donkeys and camels and carts are only used in some parts.

11. There are four towns in Wazirabad, *vis.*—

Towns.

Wazirabad, population 17,438

Ramnagar, population 5,379

Akalgarh, population 4,050, and

Sodhra with 4,666 souls.

The first three are municipalities and the last a notified area.

In the Gujranwala tahsil the only towns which are also municipalities are Gujranwala (population 29,165) and Eminabad (population 5,526). Qilla Didar Singh a notified area has a population of 2,210. There is no town in the Sharaqpur tahsil. Sharaqpur itself is a municipality with a population of 4,488. Nankana the most important place in the tahsil the birth place of Guru Nanak, has a population now of 6,180 as compared with 2,028 in 1901. It is likely to increase in importance considerably.

There are markets and much trade at Akalgarh, Wazirabad and Gujranwala, and a *mandi* has recently been started at Nankana and one is about to start at Warburton, both on the Chichoke-Shorkote Railway in the Sharaqpur Tahsil.

There are factories for ginning cotton, husking rice and steam flour mills at Akalgarh, Wazirabad, Gujranwala and Nankana.

CHAPTER II.--Fiscal History.

12. Most of the estates in this tract were probably founded early in the Moghal period and during three centuries of that rule were populous, flourishing and fairly cultivated. During the Afghan invasions and the struggles between the rising Sikh and decaying Moghal powers early in the eighteenth century the tract suffered considerably and many villages were abandoned. About the end of the century the Sikh power was consolidated under Maharaja Ranjit Singh and order and security was restored. Under the Sikhs the tract was parcelled out among *jagirdars* or *kardars* who realized as much as they could out of the people and had a perfectly free hand. The state demand absorbed all the profits of agriculture and left the cultivators a bare margin of subsistence. In addition to this troops were quartered on them and they had to put up with the exactions of regiments on the march.

13. Thus at annexation the condition of the tract was as bad as possible. The summary settlement was made soon after annexation in 1847-49 and was based on the grain collections of five years by the *kardars*, a deduction of 10 per cent, being given and the rest converted into a cash demand at prevailing prices. It fell at Rs. 2-2-0, Re. 1-10-2 and Re. 1-10-4 per acre of cultivation in the Wazirabad, Gujranwala and Sharaqpur tahsils respectively, and this will show how severe it was at the prices then prevailing. Of course it worked very badly; balances accrued, remissions had to be given, and in Gujranwala tahsil villages were sold up.

14. The first regular settlement of all three tahsils was made in 1858-59 by Mr. Morris. He determined the reductions which were necessary in all tahsils and then worked out rates to bring out the desired amounts. The results were :—

Tahsil.				Demand.	Rate on cultivation	Reduction, per cent.
				Rs.	Rs. A. P.	
Wazirabad	...	...	...	1,67,645	1 10 6	17
Gujranwala	...	...	...	2,82,791	1 4 10	19½
Sharaqpur	...	...	...	Cannot be ascertained		11

The reductions given were not sufficient and some tracts were much over-assessed. Remissions and further permanent reductions had to be made amounting to Rs. 5,130 in Wazirabad, Rs. 11,000 in Gujranwala and 3 per cent. of the demand in Sharaqpur.

In the Gujranwala tahsil rigorous measures were adopted against villages which refused to engage, and some estates and a large number of holdings were sold up. These harsh measures were repudiated by higher authority but much mischief had been done.

15. The revised settlement was made in 1868 under Mr. Prinsep's orders by Captain Nisbet in the Wazirabad and Gujranwala tahsils and by Mr. Saunders in the Sharqpur tahsil. One-sixth of the gross produce was made the basis of the assessment, and the demand was fixed after testing this with the previous demand and with estimates of plough rates, well rates and soil rates.

The results were:—

Tahsil.				Demand.	Increase, per cent	Rate on cultivation.
				Rs.		Rs. A. P.
Wazirabad	...	...	...	1,69,470	Nil	1 4 0
Gujranwala	...	...	{	2,23,737	41	1 0 0
				2,48,618	16	1 1 8
Sharqpur	...	...	{	1,92,817	5	...
				1,97,605	9	1 8 7

Progressive increases were given out in all tahsils, but in Wazirabad these were finally ordered to be taken at once. For Gujranwala and Sharqpur tahsils the upper figures give the initial and the lower the final demand. According to Mr. O'Dwyer these assessments in the Wazirabad and Gujranwala Tahsils were lenient, but were justified by the previous over-assessment, and on the whole worked well and realized without much difficulty; although in bad years relief was much required in insecure tracts, but was not given, and alienations of land rose with alarming rapidity. In Mr. Walker's opinion the Sharqpur tahsil was assessed heavily and above its resources; between 1868 and 1885 there were several bad years when crops failed and cattle died but no relief was given. From 1886 to 1892, however, necessary suspensions were granted and eventually Rs. 63,670 were remitted.

16. The last settlement now under revision was made in 1892 and 1898 by Mr. O'Dwyer for the Wazirabad and Gujranwala tahsils and Mr. Casson Walker for the Sharqpur tahsil.

The results are given below:—

Tahsil.	Circle.	Previous demand.	New demand.	Rates.					Increase, per cent.
				Chahi.	Abi.	Sailab.	Barani.	Total cultivation.	
		Rs.	Rs.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
Wazirabad	Cherkhari	68,783	1,22,122	1 12 0	...	...	1 0 0	1 11 0	24
	Banger	51,091	64,008	1 5 0	...	...	0 11 0	1 3 4	25
	Chenab	38,226	46,409	1 12 0	...	1 1 0	0 12 0	1 6 7	28
	Tahsil	1,68,100	2,33,638	...	...	...	...	1 7 1	26
Gujranwala	Charkhart	1,41,617	1,74,866	1 5 0	...	...	1 3 0	1 5 4	24
	Banger	92,381	1,10,320	1 4 0	...	...	0 10 0	0 16 11	20
	Bar	30,048	43,426	1 0 0	...	...	9 0	0 12 5	46
	Tahsil	2,63,946	2,38,613	...	...	...	...	1 1 6	24
Sharqpur	Rohi	88,650	57,017	1 2 0	1 8 0	...	0 8 0	1 1 9	2
	Kalrahi	38,932	39,730	0 12 8	...	...	0 5 0	0 11 6	2
	Gosrah	33,668	34,420	1 2 0	...	...	0 10 0	1 1 2	2
	Bar	8,738	10,103	0 12 0	...	...	0 6 0	*0 13 4	16
	Tahsil	1,59,988	1,41,259	...	...	...	...	0 15 1	1

*The general incidence in the Sharqpur Bar circle includes the waste assessment.

Mr. O'Dwyer considered his assessments of both tahsils moderate. This was fortunate for the tract, as it has been able to pay the demand even with diminished resources due to emigration of tenants to the canal colonies, bad seasons and large decrease among tenants and menials by deaths from plague. About the leniency of Mr. Walker's assessment there can be no question, as it practically maintained the previous demand and the progressive increases announced were never imposed.

It was also decided for the Sharaqpur tahsil that—

- (a) when a well fell out of use, the part of its assessment due to irrigation should be remitted, and if the land attached to it were abandoned, even the dry assessment should be remitted from the harvest when recorded waste;
- (b) wells temporarily relieved of assessment were to come under it again when brought into use;
- (c) such remissions could also be given on shares of wells, if it could be shown that such share was abandoned for causes outside the owner's control;
- (d) the term of protective leases for new wells sunk in place of old ones was limited to five years.

The last decision was unfortunate, as a five years' concession is quite insufficient with the heavy costs a new well entails. This has now been rectified with the Financial Commissioner's sanction and twenty years' leases have been given to all wells constructed after 1893.

17. It has worked quite satisfactorily, and suspensions and remissions have been liberally given when needed, perhaps too liberally in the Sharaqpur tahsil. Details up to 1908-09 for Wazirabad and up to 1909-10 for the remaining tahsils have been given in the assessment reports.

Since then the figures of suspensions are :—

				1909-10.	1910-11.	1911-12.	Kharif 1912.
				Rs.	Rs.	Rs.	Rs.
Wazirabad	...	...	...	1,247	8,083	13,510	507
Gujranwala	...	...	...	Nil	Nil	47,198	Nil.
Sharaqpur	...	...	...	Nil	1,429	21,939	750

The year 1911-12 was a disastrous one and suspensions on a large scale were unavoidable. The figures for the other years are due to special causes like water-logging in Wazirabad and floods in Sharaqpur.

Rupees 175 were remitted in the Wazirabad tahsil in 1909-10 and 1911-12 on account of damage from hails. Summed up for the whole period of the expired settlement, the figures are :—

Tahsil.				Total suspended.	Remitted.	Realised.	Still in arrears.
				Rs.	Rs.	Rs.	Rs.
Wazirabad	...	...	...	63,749	Nil	87,848	26,401
Gujranwala	...	...	...	2,56,581	27,000	1,82,123	47,459
Sharaqpur	...	...	...	8,16,636	1,48,208	1,46,864	19,566

18. The advances given for sinking of wells and purchase of well cattle and seed and straw are :—
Tahsil advances.

						For wells.	For cattle, seed and straw.
						Rs.	Rs.
Wazirabad	...	...	...	...	...	10,995	39,837
Gujranwala	...	...	...	...	...	18,690	70,848
Sharapur	...	...	...	...	...	66,485	2,66,897

The Sharapur tahsil has received very generous treatment.

19. The demand for 1911-12 compares as follows with that of the first year of last settlement and now sanctioned for this settlement :—
Demand for 1911-12.

				1892-93.	1911-12.	Now sanctioned.
				Rs.	Rs.	Rs.
Wazirabad	...	...	...	2,32,143	2,33,679	2,59,500
Gujranwala	...	...	...	3,23,897	3,16,498	3,95,225
Sharapur	...	...	...	1,39,733	1,71,299	2,90,966
Total				6,95,773	7,21,471	9,45,692

CHAPTER III.— Survey and Record-of-Rights.

20. A special revision of the records-of-rights for the three tahsils under report was directed by Punjab Government notification No. 224 Revenue, dated 3th October 1909.
Revision of the record of rights—*Killabandi*.

The introduction of *killabandi* in the Gujranwala tahsil west of the railway line and in the Sharapur tahsil west of the Upper Chenab Canal was sanctioned in Punjab Government letter No. 1384 S. Revenue, dated 17th July 1908, but for financial reasons only Rs. 30,000 were granted for the year 1908-09 and so the staff entertained was a small one and work restricted.

This work nominally commenced on 1st October 1908, but on account of a severe epidemic of malaria and delay in crop inspection work it actually began in December. By 30th September 1909 field work that is laying down of *killas* on the ground was finished in 160 estates in Gujranwala and 60 in Sharapur, *khataunis* were prepared and repartition completed in 131 and 51, respectively, and 33 and 20, respectively were finally attested by Naib Tahsildars and 29 and 5 by Tahsildars.

21. From 1st October 1909 settlement and re-survey operations began in the whole tract.
Progress of *killabandi*.

The orders on the forecast report sanctioned re-survey by *killabandi* only in the tract commanded by the Upper Chenab Canal subject to the owners agreeing, but on a separate reference permission was given to extend it into non-commanded estates, provided the owners expressed a desire for it

(Financial Commissioner's No. 6076, dated 7th December 1909). At the time it was believed that canal irrigation would be given to all the commanded estates, and even where limited to the kharif harvest well lands would not be excluded. Accordingly the owners of all commanded estates were persuaded to agree to it, and though there was some opposition in portions of the Wazirabad and Sharapur tahsils on account of the instigation and misleading of certain influential men, it was gradually overcome, and in the end these very persons recognised the advantages and were loud in its praises.

Killabandi has accordingly been done in all commanded estates and has included all lands, even the minutely sub-divided and very valuable well lands.

The final decision, that where canal irrigation will be for *kharif* only; no water will be given to well lands and will preferably be applied to waste lands has been a great disappointment to the highly developed estates where all the land is attached to wells and there is no waste. Regret was expressed to several such that they were needlessly put to the trouble and expense of *killabandi*, but the invariable reply was that they were glad it had been done, as it is advantageous in various ways and this tribute was much appreciated by the staff.

22. A rectangular survey of the whole tract commanded by the Upper Chenab Canal and included in the Rectangular survey. Gujranwala, Sialkot, Lahore and Montgomery districts was made in the interests of the Irrigation Department, the work occupying about 18 months from December 1906. The orders were that instead of squares of 200 *karams* each, rectangles 200 by 180 *karams* and exactly 25 acres in area should be laid out in the tract and their corners demarcated by stones. It was also necessary to have these rectangles on a system of common base lines. Captain M. O. C. Tandy, R.E., of the Survey Department devised a system of small base lines scattered all over the country due north and south or due east and west fixed from tri-junctions from data worked out and supplied by him. Experiments made with these according to his detailed instructions were found successful and the system was adopted with the Settlement Commissioner's sanction.

The materials supplied by the Survey Department consisted of an index map on a small scale of the tract in question, showing village boundaries, tri-junctions and rectangles of 25 acres each, ruled in with numerous base lines north to south or east to west on the rectangular lines. With this were given traverse data for laying down the base lines on the ground from tri-junctions with the help of plane tables, rectangular magnetic compasses and sight rods. Captain Tandy explained to me at Simla how this should be done, and I worked it out on the ground and trained my staff. Only smart kanungos and Naib Tahsildars were used for base line work, but when these were laid and blocks formed by producing them wherever necessary, the breaking-up of the blocks into rectangles was a simple matter and done by ordinary patwaris. The results were most satisfactory. The rectangles over such a vast tract fitted in accurately and the canal officers who checked the work when levelling along the lines admitted its accuracy, and the costs were less than half those on ordinary square-laying. Great credit for this success is due to Captain M. O. C. Tandy who started the system and supplied data for the Gujranwala and Sialkot Districts. The data for the Lahore and Montgomery Districts were supplied by Captain E. A. Tandy, R.E.

23. For *killabandi* these rectangles were broken up into 25 equal rectangular fields of one acre each by dividing two perpendicular sides into five equal bits by chaining and then finishing up with sighting by flags. The amount of chaining required was reduced considerably and this was all due to Captain Tandy's excellent system. With ordinary square-laying the amount of chaining necessary would have been very large and expense considerably more.

In the Hafizabad tract laying-down of *killas* and writing-up of field books and *khataunis* was done at the same time, but experience showed that it was much better to lay down *killas* on the ground first and do the repartition and writing-up work afterwards. This enabled the owners to realize how their old fields were cut up into *killas* and they were able to assist in assigning these to the sharers best entitled to them and objections were reduced considerably.

The system pursued in this settlement was therefore somewhat different from that used in Hafizabad and much less expensive. All the work which required chaining, that is laying-down of *killas*, mapping the village boundaries, fixing in the roads, village sites, well enclosures, graveyards, ponds, &c., was done first of all, the chainmen dismissed, and then repartition and preparation of records was taken in hand.

Where village boundaries did not fit in, files were prepared and disputes decided and all boundaries were straightened in the preliminary stage and alterations after allotment of *killas* thus avoided.

Another improvement on the Hafizabad system was the specially designed mapping sheets prepared by the Mufid-i-'Am Press at Lahore. On these rectangles of 25 acres each were ruled instead of squares, and inside each rectangle *killas* were shown with red dotted lines. This made the patwari's work of inking in the maps easier, and the maps are very neat and accurate,

24. Before starting work detailed instructions consisting of 14 printed foolscap pages were drawn up and printed and copies supplied to all officials, zaildars, lambardars and leading men. The Tahsildars or Naibs then went to each village, explained matters and got the people to agree to *killabandi*, recorded their statements to this effect and also as to the method to be adopted in repartition of the estate, entered up and sanctioned a mutation declaring all the land of the estate to be joint, the share of each owner being the area of land recorded in his possession in the last *jamabandis*.

The preliminary file was then sent up for sanction to the method of partition proposed to the Settlement Officer or the Extra Assistant, and on receipt of his order work was commenced.

The almost invariable method of partition proposed and sanctioned was that each owner should get his due proportion of all classes of land and that possession should be maintained as far as possible, *killas* including the lands belonging to more than one owner being given to the one who owned most, except when a deviation from this became necessary to make up deficiencies or reduce excesses. The straightening of village boundaries, re-alignment of roads along rectangular or *killa* lines, breaking-up of *killas* into regular equal bits on minutely divided wells or valuable lands near village sites, exclusion of any special lands from *killabandi*, disposal of valuable trees on exchanged lands and every other detail was duly provided for so as not to leave any matter for dispute or in the hands of the subordinates.

25. As *killabandi* radically alters the previous fields on the ground and entries in the records, it was considered most important to give the numbers of the old fields included in each *killa* and in case of *killas* including old fields belonging to several owners to specify the one in lieu of and to the owners of which the *killa* was assigned. For this purpose a circle has been drawn in the field book and *khataunis* round the number concerned, and this facilitated check and disposal of objections. In the case of estates where at the last settlement re-survey was done by squares the work of giving the old field number was simple, one rectangle being fixed on the last settlement map from the ground, and on this foundation rectangles and *killas* ruled on the whole map in green colour, showing at a glance the old fields included in each *killa*. In estates where the old maps were only amended ones this work entailed great labour and considerable difficulties. Such maps were not true to scale, and the only way was to fix each *killa* on the old map from the ground.

The resulting map *killas* were nowhere rectangles, but assumed all sorts of shapes and dimensions. In such estates the work of giving old field numbers was all done on the spot, and the number thereof in Wazirabad being 195 and in Gujranwala 162 and all these the highly developed estates with minute subdivision of fields the extent of the work involved in this connection can be realized. It has been carefully checked by all officers from myself downward and is as correct as possible. Orders were given that where the area of any old field included in a *killa* was a few *marlas* only it was not to be entered. The old field numbers have been entered in the appropriate columns of the field book, *khataunis* and settlement *jamabandis*, but will not be repeated in subsequent *jamabandis*.

26. The numbering of *killas* is not by rectangles. In this tract ownership is not by rectangles but by wells, and generally a well comes into several rectangles and one rectangle has the lands of several wells in it. Numbering by rectangles would make crop inspection work troublesome and be of no advantage. It was therefore decided to number *killas* by wells as far as possible, and to arrange them in such a way that the patwari by going along one line can write up entries about *killas* on both sides without trouble. *Killas* have been marked on the ground and embankments made only in cultivated lands or divided waste. In the case of jointly owned waste which is of good quality and likely to be irrigated from the canal or otherwise cultivated, they have been shown on the maps by broken lines and not made on the ground. The agriculturists can easily do this for themselves when required by means of ropes. Joint lands not fit for cultivation have been shown on maps by rectangles and not divided into *killas*.

27. In the majority of estates including some of the Sialkot adjoining ones the owners agreed to straighten their village boundaries and in some cases even tri-junctions were moved to fit the altered boundaries. Some owners were eager to have their boundaries remodelled on *killa* lines so as to keep their *killas* unbroken, but in most cases this resulted in very complicated lines looking like regular steps and was discouraged, straight boundaries for long distances being preferred. Village roads have generally been remodelled along *killa* lines, the only ones left untouched being those which passed through valuable lands where any change would be resented or where there were parties among owners and an agreement was impossible, or where the old road was higher or lower than adjoining fields and could not be included among them. Water-courses have all been made along *killa* lines, and on account of the system of common base lines the field boundaries run straight not only through one estate but from one to the other and where properly made one can walk along them for miles.

Every boundary dispute and alteration of boundaries was disposed of by a separate file which contains the statements of the owners, a map showing the old and new boundaries and the order sanctioning the new line. All alterations in the boundaries of *rakhs* were sanctioned by the Financial Commissioner.

28. When the actual spot work was finished and chainman discharged the patwari proceeded to allot the *killas* and write up the field book and *khataunis*. In some estates where owners were sensible and on good terms with each other the repartition was done entirely by themselves and the patwaris merely wrote up the papers. There were no disputes and some owners gave up scattered fields all over and consolidated their holdings. In other estates the patwari allotted the fields according to the sanctioned method and made entries accordingly in the papers. The intermediate check of the officers was confined to seeing that all orders were being observed and entries correctly made. On completion of the repartition the totals were made up

and then came the difficult task of taking away some *killas* from one holding and adding them to others to satisfy objections and making up deficiencies in areas. Where the kanungos and patwaris were honest and did this work carefully the results were satisfactory otherwise the work of the Naib Tahsildars and Tahsildars was enormously increased and even then some owners were dissatisfied.

29. In his final attestation the Qanungo had to demarcate all *killas* and satisfy himself that all entries were in accordance with allotments made to the owners. He had to dispose of all objections and after checking the *khatauni* totals to satisfy himself that each owner got the total area due to him and fair proportion of all classes of land. All private partitions were completed during *killabandi* and shown in the papers. Where all the sharers of joint holdings wanted their shares separated and there was no dispute, this was done during *killabandi* without making any separate partition files.

30. In *killabandi* the Naib Tahsildar's work was the most important. He prepared the preliminary files and reported about rectification of boundaries and roads, &c., and sanctioned the mutations in connection with these; and the repartition was practically decided by him. It was only where there were objections or appeals against his orders that superior officers interfered. In his final attestation he demarcated as large a proportion of *killas* as possible, and where the kanungo was not reliable he had to go over every field. He listened to all objections and decided them and had to make up each sharer's land. When all this was done and necessary alterations made the mutation of *killabandi* partition was written up and decided by him.

31. This mutation being the most important document in the record-of-rights it is desirable to describe it in detail.

In column 4 the opening entry is *shamlat deh*, shares being according to the area entered in the last *jamabandi*. This is followed by the names of the owners and their shares in each holding of the *jamabandi*. Entries in column 5 (tenancy) are only made in case of occupancy tenants and mortgagees or purchasers of specific fields in any holding. Column 6 gives the number of fields comprised in and the total area of the holding; all other particulars can be obtained from the previous *jamabandi*. The entries in columns 8 to 12 are copies of the new *khataunis*, and in column 11 every *killa* is entered with its area. Details of soils are not given for each field, but are given for the total of the holding.

No fees was charged under the orders of the Financial Commissioner. This mutation has a reference in column 2 to the mutation whereby the village was declared *shamlat deh* and also to all mutations regarding changes caused by straightening of boundaries. At the end of the mutation is an abstract showing for each holding the area before *killabandi* and that due under partitions from joint holdings, together with the proportional excess or decrease caused by the re-survey in the whole estate and the total thus arrived at as due to the holding. This is compared with the area actually given in the repartition. The patwari's report mentions that the *killabandi* partition was made according to the sanctioned method and the owners had taken possession of the *killas* allotted to them. The Qanungo's report specifies his having demarcated all the *killas* and attests possession in accordance with the entries.

The Naib Tahsildar's order is a detailed one. It mentions the names of all the right-holders present and their acceptance of the partition made, all objections and the manner in which disposed of are given in detail. The amount of demarcation personally made by the Naib Tahsildar is mentioned and an assurance given that he has satisfied himself that the entries are correct and every owner's land properly made up and all reasonable objections removed. The mutation is then sanctioned and the

signatures or thumb marks of all present affixed. Every alteration is initiated by the Naib Tahsildar, and if ever any doubt arises as to entries in *khataunis* or *jamabandis*, the entries in this mutation should be referred to and accepted as correct. In estates where others than members of agricultural tribes also own or are mortgagees, there is an order sanctioning the exchanges under the Alienation of Land Act, by the settlement officer, who was invested with powers of a deputy commissioner under the Act.

32. When the alterations consequent on changes made by the Naib Tahsildar were completed and the papers all signed by him the records were ready

Tahsildar's final attestation.

for the final attestation of the Tahsildar.

This consisted of attestation of *khataunis* and genealogical tables, hearing objections and disposing of them, checking some of the straightened boundaries with the files, a certain amount of demarcation and checking of other papers. Where objections were numerous, a good deal of time had to be spent in removing them and many alterations had to be made in the *khataunis* and *killabandi* mutation. Where both parties agreed to the change, the Tahsildar disposed of it himself by sanctioning mutations of exchange. Where the parties did not agree the matter was referred to me. If I agreed with the Tahsildar, the Naib Tahsildar was directed to review his order, if not, the dissatisfied party was informed and could appeal.

On completion of the Tahsildar's final attestation the preliminary *killabandi* file was sent up to the Extra Assistant with a report that the partition had been completed and acted upon and after satisfying himself that officer finally sanctioned it.

33. A large number of villages in the Chenab circle of Wazirabad not

Killabandi in the Chenab circle.

commanded by the canal expressed a desire for *killabandi*, and as it was intended to introduce fluctuating assessments there as in the Hafizabad Chenab circle, its introduction into non-commanded estates was recommended and sanctioned by the Financial Commissioner as already mentioned in paragraph 21. In the end it was done in all the estates of the circle except two (Rana and Bahram) on the eastern border. Base lines in this circle were laid by the Survey department under the supervision of Lala Maya Das Puri assisted by some settlement Qanungos. Traverse points were fixed at suitable distances on high banks both sides of the river and these and the base lines were plotted on rectangular mapping sheets, on which were also shown the fixed boundaries with Gujrat villages laid down by Mr. Townsend in 1903-04, taken from the village maps of both sides. In many cases these did not coincide, the discrepancies being due either to incorrect plotting thereof on the maps of this or the Gujrat district or to the system of squares not being correctly taken across the river. All such discrepancies have been set right with the concurrence of officials and owners of both sides, separate files being prepared for each case. The remaining work of *killabandi* was done in the same manner as in the canal commanded estates. Stone pillars have been erected on suitable base lines all over, so that the system of rectangles can be relaid at any time. *Killabandi* has however rendered these unnecessary.

In the two estates the owners whereof did not want *killabandi* re-survey on squares was done at the last settlement, and it was found by checking that entire re-measurements were not needed. The system of rectangles was plotted on the old maps and fields which had not changed in any way were copied in and the rest re-surveyed.

34. *Killabandi* was not required and has not been done in those estates

Re-survey in Wazirabad Bangar non-canal estates.

of the Bangar circle of Wazirabad which are situated west of the Lower Chenab Canal and get no irrigation from it. In five of these the maps were amended at the last settlement and were not found satisfactory and re-survey has been done on rectangles. In the rest (six estates) the last settlement maps were amended as described in the foregoing paragraph. In the estates which get irrigation from the Lower Chenab Canal *killabandi* was done in 1906. The Crown estates 25 in number have been left alone,

35. Considering the permanent nature of the survey here and the rectification of village boundaries the owners were persuaded to make their tri-junctions permanent also and all agreed. Stone tri-junctions were accordingly put up everywhere.

36. Several estates in all tahsils had separate records of rights but one common map, their fields being interspersed all over. For *killabandi* purposes it was found necessary to amalgamate such and where the owners had no reasonable objection this was done. Some other contiguous ones were amalgamated as belonging to same owners and having inconsiderable areas. On the other hand two new estates were constituted in Gujranwala and three in Sharaqpur on the applications of the owners concerned. The final results are a reduction of 2, 12 and 3 respectively in the Wazirabad, Gujranwala and Sharaqpur tahsils.

37. The people in general are highly pleased with *killabandi*. Of course as was to be expected in a tract like this, there were numerous objections which were disposed of during final attestations by Naib Tahsildars or Tahsildars or after final attestations were completed by the Extra Assistant Settlement Officer or myself.

Seventy appeals were instituted against the orders of the subordinates, of which 9 related to new roads, 6 being rejected and 3 accepted, 6 were about rectified village boundaries, 5 being rejected. Fifty-five were against allotment of *killas*, 36 were rejected, 7 accepted, and orders modified. In two cases the partition was so badly done that I ordered a complete revision. In the course of these appeals the work of the subordinates was subjected to close scrutiny, and came out satisfactorily. Thus far seven appeals have been made to the Commissioner against my orders, and all rejected.

With *killabandi* it is hoped that no special revision of maps will ever be required. The people are likely to maintain it and the staff should assist them in this. If it becomes necessary to break *killas* on account of partitions or other transfers the division should always be made in equal and regular bits. The village boundaries have also been carefully fitted in and straightened as far as possible and disputes should be very rare. Disputes regarding field boundaries will not occur at all and there have been hardly any since it was introduced. The other advantages are too well known now and described in paragraph 35 of the Hafizabad settlement report, and need not be repeated here.

38. The amount of work done up to 1st October 1909 has already been given in paragraph 20.

During the first year of the settlement, that is up to 30th September 1910, the work of laying down *killas* on the ground was completed in 728 estates, *khataunis* prepared and re-partition completed in 523, and 296, 250 and 198 estates were finally attested by Qanungos, Naib Tahsildars and Tahsildars; respectively.

By the end of the second year (30th September 1911) field work was finished in 1,083 estates and only 13 were left. *Khatauni* and partition work was completed in 994 estates, only 102 being left and none in Gujranwala Tahsil. Final attestations were made for 581, 525 and 474 respectively, and *jamabandis* by *killabandi* were completed for 319 estates.

Spot and partition work was all finished in the third year except in 11 estates of the Sharakpur Tahsil situated inside rakhs for which proposals for consolidation of scattered plots and rectification of boundaries were submitted, but no orders received, and by the end thereof the *jamabandis* of 628

estates were ready and the patwari's copies for 865. The *Wajib-ul-arz* was revised and completed for all estates. On 30th September 1912 final attestation work was remaining to be done by Qanungos, Naib Tahsildars and Tahsildars in 99, 129 and 209 estates, respectively.

The work remaining to be done on 1st April 1913 was as follows :—

Detail of work.	Gujranwala.	Wazirabad.	Sharapur.
1. <i>Killabandi</i>	<i>Nil</i>	<i>Nil</i>	3
2. Preparation of records	<i>Nil</i>	<i>Nil</i>	11
3. Final attestation of Qanungos	<i>Nil</i>	4	22
4. Di to of Naib Tahsildars	<i>Nil</i>	16	25
5. Ditto of Tahsildars	<i>Nil</i>	21	29
6. <i>Jamabandi</i> office copy	11	46	146
7. Ditto patwari's copy	11	68	179

The entries at stages 1 and 2 for Sharapur are due to the estates situated in rakhs for which final orders of the Financial Commissioner were received in March 1913.

In addition to this there was all the work of copying of village maps on tracing cloth for tahsil offices and preparation of *parcha bahis* for right-holders to be done. This was all completed by 31st October 1913.

39. The record-of-rights contains the following documents :—

Contents of record-of-rights.

- (a) The preliminary proceeding.
- (b) Genealogical tree of owners.
- (c) *Jamabandi* with index of holdings and index of fields.
- (d) List of revenue assignments and pensions.
- (e) Statement of rights in wells.
- (f) Village administration paper (*Wajib-ul-arz*).
- (g) Order of Collector determining the assessment.
- (h) Sanctioned mutations with index.
- (i) Order of Collector distributing the assessment.
- (k) Field map with index map.

In the preparation of the records it was borne in mind that on account of the great changes due to *killabandi* the previous records are quite out of date, and therefore the new records should be complete in themselves and as far as possible reference to the old records should not be necessary.

40. As in the case of Hafizabad according to Sir James Wilson's instructions the entries in genealogical trees were carried as far back as possible, so that the document may be completed for every purpose including pre-emption rights. Superfluous names have all been omitted. Previously the tree of all owners who held land in more than one *taraf* or *patti* either by inheritance or purchase was made in detail in each such *patti*, now it has been shown in one place only and reference given in the remaining *pattis*.

The genealogical tree has been put in a pocket in the *jamabandi* cover except in large estates where a separate cover has been provided,

41. With *killabandi* it is desirable that the *jamabandi* should be prepared after crop inspection for two harvests by *killas*, so as to ensure that the repartition by *killas* has been acted upon. This was necessary in Hafizabad where laying down of *killas* and partition went together, and very often at the Naib Tahsildar's final attestation the allotment had not been carried into effect. In this settlement with laying down of *killas* in advance the old fields ceased to exist long before the Naib Tahsildar's attestation, and it was necessary to prepare a new register for crop inspection work. In most cases therefore the *killabandi* was acted upon and crop inspection for two harvests on *killas* completed before the Naib Tahsildar's final attestation. All the *jamabandis* completed up to 1912 were prepared from such crop inspection registers and attested on the spot by all officials. In the case of the estates not so completed, these being the large and complicated ones and their *khataunis* being lately attested on the spot after *killabandi* was fully acted upon, the *jamabandis* are copies of *khataunis* and not attested on the spot. It is believed that these are quite accurate, still they should be attested as soon as possible under the quadrennial rules.

The names of absentee right-holders and those out of possession were expunged or otherwise dealt with under the instructions contained in the Settlement Manual. The rights of purchasers and mortgagees to share in the *shamilat* where doubtful were in every case decided by mutation orders, and those not entitled to it recorded "*malikan qabza*."

In most estates the entries regarding *shamilat deh* were *hasb rasad khawat* without any definition as to which settlement was meant. The owners were persuaded and almost invariably agreed to alter these into definite entries like *hasb arazi* or *hasab jamu* of 1892 or 1868 as they liked. Such alterations were made only where all the owners agreed, where they did not the old entries were continued, but such cases are rare.

Old field numbers of each *killa* were entered in the appropriate column as described in paragraph 25.

42. The orders about record of soils were that *chahi*, *nahri*, *sailab* and *abi* were to be entered as such, but all *barani* and waste lands were to be classified for purposes of canal irrigation. The Settlement Commissioner sanctioned the following classes :—

Soil and revenue entries.

- (a) Chahi.
- (b) Nahri.
- (c) Abi.
- (d) Sailab.
- (e) Barani 1st class.
- (f) Barani kalrathi.
- (g) Barani tibba.
- (h) Waste 1st class.
- (j) Waste kalrathi.
- (k) Waste tibba.

The 1st class *barani* or waste includes all *rohi* (sweet clay) *missi* (firm loam) and *maira* (light loam) which are fit for all canal crops. *Kalrathi* or sour clay is only fit for rice, and does for wheat which is however inferior. *Tibba* (sandy) is unfit for canal irrigation. Soil entries in accordance with these instructions were made in the *jamabandi* for each *killa*, but need not be repeated in subsequent *jamabandis*.

In estates where fixed assessments have been maintained the old demand for each holding is entered in black and the new demand in red.

The rents paid and entered were carefully enquired into at crop inspections and attestation of *khataunis* and are believed to be correct.

Menial's dues paid from the common heap were also carefully enquired into, and have been recorded in the form of a note in the remarks column. The mutations relating to each holding are referred to in the remarks column, their number and class being given.

The index to holdings will facilitate the finding of any owner or holding in the *jamabandi* at once. The index to fields will do the same for fields. It has acted as a check also to every field being included in the *jamabandi*.

43. The village administration paper was revised and brought up to date for every estate by the Extra Assistant Settlement Officer. Sections which were useless on account of their matters being governed by law or rules were omitted. The chief points dealt with relate to management of joint lands and village cesses, the rights of the tenants to trees and grazing their cattle, the services rendered by and payments made to menials, the rights of Government to quarries &c., and customs regarding burial and burning grounds.

44. The original order of the Collector determining the assessment of each estate is in English on the abstract note-books at the end of the inspection note. Printed forms in vernacular giving a brief abstract of the orders of Government and fixed assessment or fluctuating rates for the estate duly signed have been attached to both copies of *jamabandis* and copies given to *lambar-dars*.

45. The number of mutations attached to *jamabandis* is very large as none were prepared for years. The number disposed of by the settlement establishment up to 31st March 1913 was 65,941 including one *killabandi* partition mutation for each estate, which is bulky enough in small estates, means, a separate volume in ordinary and more than one volumes in large estates. It may be mentioned here that the standing records of many villages were found much out of date and contained serious errors in names and shares, &c. Mutations which had occurred soon after last settlement were not discovered and incorporated into the records. In some large villages *khatuni* attestations brought to light hundreds of mutations.

The documents (a) to (b) in paragraph 39 have been bound up into one or more volumes with the *jamabandis*, both office and *patwar* copies being strongly bound with leather backs.

46. The order of the Collector distributing the assessment over holdings was passed on the *bachch* files which have been separately consigned into the record room.

47. The original maps are on mapping sheets described in paragraph 23. Unfortunately the *Mufid-i-Am Press* did not use good paper or cloth and some sheets have been badly damaged and had to be patched up. *Patwaris* were given copies on long cloth only, and a third copy made on tracing cloth with the Financial Commissioner's sanction will be kept at tahsil offices.

Strong steel almirahs have been provided for storing the maps at head-quarters and tahsils, the mapping sheets for each estate being fastened at all corners with laces through eyelets inserted in the sheets. The index maps prepared on a scale of 4 inches to the mile have been filed with the village maps at head-quarters. Long cloth copies of maps of commanded estates were also supplied to the irrigation department at their cost.

The northern and southern sides of the *killas* are 40 *karams* or 220 feet and eastern and western 36 *karams* or 198 feet. The dimensions of fields were only entered on the maps and in field book and *khatunis* in case of broken up *killas* or fields which were not remodelled on *killa* lines.

As in C zone estates all the waste and in others a good portion thereof will shortly become cultivated with canal irrigation it would be useless colouring it. Only unculturable plots like village sites, roads, &c., were coloured.

New small scale maps of the three tahsils were prepared and all changes made shown thereon including the canals, branches and distributaries already made or aligned, and it is hoped that a new map of the district including Hafizabad and Khangah Dogran tahsils will be compiled and printed as it is much needed.

48. New bilingual village note-books were brought into use from 1911-12 and no change made in their forms. New abstract note-book forms were submitted for approval. For estates under entire fluctuation these are practically the same as were approved of and used for the Hafizabad and Khangah Dogran tahsils. For the rest they are much the same, alterations being made to show the *nahri* crops under fluctuation and in the columns for land transfers.

My village inspection notes and assessment orders are recorded on the old abstract note-books, and these will be taken out thence and bound up in the new volumes together with copies of the last settlement notes.

CHAPTER IV.—Assessment.

49. A general re-assessment of this tract was directed by Punjab Government notification No. 223-Rev., dated 9th October 1913. In the forecast report an increase of two lakhs was expected on the demand of Rs. 7,24,000 for 1907-08. Of this one lakh was from the Gujranwala and Wazirabad tahsils at 20 per cent. for rise in prices, and the rest from Sharakpur due to rise in prices and increase of resources chiefly in the Bar Circle on account of extension of irrigation from the Lower Chenab Canal.

The re-assessment had also become necessary to provide for the expected irrigation from the Upper Chenab Canal.

50. The changes in cultivation will be apparent from the following statement:—

Tahsil.	Circle.	TOTAL AREA.		CULTIVATED, PER CENT.		CHARI AND ARI, PER CENT.		NAHRI, PER CENT.		UNIRRIGATED, PER CENT.		WELLS FIT FOR USE.		WELLS IN USE.	
		Last Settlement.	Now (1911-13).	Last Settlement.	Now.	Last Settlement.	Now.	Last Settlement.	Now.	Last Settlement.	Now.	Last Settlement.	Now.	Last Settlement.	Now.
WAZIRABAD.	Charkhari ...	103,674	104,316	69	67	64	57	...	...	6	7	Cannot be found.	2,004	2,012	1,813
	Bangar ...	106,673	111,330	53	64	44	33	3	7	6	14		1,133	1,108	894
	Chenab ...	74,068	61,249	44	37	30	17	...	...	24	20		870	690	741
	Total ...	284,415	276,895	56	54	45	37	...	3	10	15		4,007	3,810	3,548
GUJRANWALA.	Charkhari ...	219,463	218,661	59	58	51	89	...	...	6	19	3,091	2,953	2,063	2,634
	Bangar ...	164,634	164,671	69	71	47	85	...	...	21	38	1,717	1,648	1,672	1,520
	Bar ...	99,890	100,770	56	64	25	19	...	...	31	45	518	435	509	463
	Total ...	483,987	484,102	63	64	44	84	...	...	18	30	5,326	5,156	5,143	4,617
SHARAKPUR.	Rohi ...	238,437	241,671	21	24	19	18	...	...	3	6	1,380	1,537	1,187	1,261
	Kalrahi ...	156,183	156,189	34	39	27	27	...	1	7	11	1,210	1,275	1,071	1,015
	Qasrah ...	50,139	49,983	63	68	59	49	...	...	11	19	955	994	914	874
	Bar ...	136,409	133,619	9	48	6	6	...	89	3	4	204	253	199	167
	Total ...	581,168	571,462	26	37	21	21	...	8	6	8	3,699	4,061	3,271	3,317

When the assessment reports were prepared the new survey figures were not ready and old statistics were used. The new survey figures revealed that large areas of cultivation which had become *barani* were still recorded *chaki*, and some areas which should have been entered waste were shown cultivated. There was a decrease in well irrigation and increase in dry cultivation in the Gujranwala and Wazirabad Tahsils according to the old figures, but the new figures show it to be much more. The information given by these figures may be summed up as follows :—

- (a) There is a slight decrease in total cultivation in the Charkhar circles of both tahsils and in the Chenab circle (the large decrease shown in this circle is not real, and is due to the addition of about 6,000 acres of unculturable lands by fixed boundaries), slight increase in the Bangar and Gasrah circles, substantial increase in the other circles and a very large one in the Sharaqpur Bar due to canal irrigation. There is a large decrease in well irrigated cultivation and the number of wells in use in all circles of the Wazirabad and Gujranwala Tahsils except the Chenab, amounting to 25 per cent. in some.

51. The changes in efficiency of cultivation and cropping will be evident from the following statement giving percentages on cultivation and compiled for the years on which the two re-assessments were based. Figures by assessment circles will be found in the assessment reports.

Crops.	WAZIRABAD.		GUJRANWALA.		SHARAPUR.	
	Last Settlement.	Now.	Last Settlement.	Now.	Last Settlement.	Now.
Sugarcane	4	8	8	2	...	...
Cotton	5	3	4	2	2	3
Maize	5	3	3	2	4	3
Rice	3	4	2	1	9	6
Others	17	13	22	15	7	4
Total <i>kharif</i> harvested ...	34	26	34	23	22	16
Total <i>kharif</i> sown ...	36	30	35	28	28	22
Wheat	37	29	25	19	32	31
Barley	11	4	9	3	8	3
Oilseeds	1	1	1	3	1	4
Gram	4	5	6	11	4	14
Others	16	18	15	20	7	7
Total <i>rabi</i> harvested ...	69	57	55	56	52	59
Total <i>rabi</i> sown ...	72	70	58	66	60	66
Grand total harvested ...	103	82	89	78	74	75
Grand total sown ...	108	100	93	94	88	88

There is a decrease in efficiency of cultivation, large in Wazirabad and substantial in Gujranwala, but none in Sharaqpur. The proportion of valuable irrigated crops like cane, cotton, maize, rice and wheat has fallen off everywhere, and there is an increase in the unirrigated *rabi* crops of gram and mixtures thereof.

52. The above falling off is a good deal due to shortage of tenants on account of emigration to canal tracts and deaths from plague, and the census returns are suggestive and are summarized below by tahsils :—

Tahsil.	1891.	1901.	Change per cent.	1911.	Change per cent. in 10 years.	Change per cent. in 20 years.
Wazirabad	183,606	183,205	Nil.	148,998	-16	-19
Gujranwala	269,166	252,863	-6	218,378	-14	-19
Sharaqpur	133,361	118,980	-11	149,587	21	8

Between the two settlements there has been a large decrease of population in the Wazirabad and Gujranwala Tahsils and a slight increase in Sharaqpur due to canal irrigation and colonization of Crown lands. The change in ploughs and cattle is as follows :—

Tahsil.	Ploughs.	Well and plough cattle.	Milch cattle.
	Per cent.	Per cent.	Per cent.
Wazirabad	-3	-10	+19
Gujranwala	-13	-20	-16
Sharaqpur	+95	+5	-9

53. The chief owners in the Wazirabad tahsil are Cheemas and Chathas, both Jats, mainly Muhammedans, who own nearly 80 per cent. and are good cultivators and industrious. In the Gujranwala tahsil Wiriks (Sikh Jats, owning $\frac{1}{4}$ th), Waraichs (also Sikhs) and miscellaneous Jats both Hindus and Muhammedans are the chief owners and all good cultivators.

In Sharaqpur tahsil Arains and Lobanas, who own $\frac{1}{4}$ th are excellent cultivators. Jats who own about $\frac{2}{3}$ ths are a miscellaneous lot. Of these Wiriks who are both Hindus and Mussalmans are good cultivators, the rest all Mussalmans are indifferent but have improved since last settlement. Rajputs own about $\frac{1}{4}$ th and are also improving although still far behind.

Cultivation in Wazirabad and Gujranwala and in the Arain and Labana estates in Sharaqpur is generally good, and excellent and intensive where holdings are small, as is the case with Cheemas, Labanas and Arains.

54. The transfer of land since the last settlement are summarized in the following statement, the total period being divided into two, the first preceding the passing of the Alienation of Land Act and the second succeeding it. The figures are percentages :—

Tahsil	Details.	SALES.					LANDS HELD UNDER MORTGAGES.			
		Total sales.		To agriculturists.		Price per acre.	Total mortgages.		To agriculturists.	
		Total area.	Cultivated.	Total area.	Cultivated.		Total area.	Cultivated.	Total area.	Cultivated.
WAZIRABAD.	Up to 1900-01 ...	8.5	9	5	4.5	31	...	...	...	...
	From 1901-02 ...	4.5	5	8	3.5	47	...	...	...	...
	Total ...	13	14	8	8	36	13	17	4.5	6
	Last Settlement ...	8	12	...	...	29	10	16	...	...
GURJANWALA.	Up to 1900-01 ...	5	6	2.5	3	38	...	...	...	...
	From 1901-02 ...	5.5	5.5	4	4	55	...	...	...	...
	Total ...	10.5	11.5	6.5	7	47	11	14	4	6
	Last Settlement ...	10	14	4	5	16	8	12	2	3
SHARAPUR.	Up to 1900-01 ...	7	5	4	3	16	...	...	...	...
	From 1901-02 ...	3.5	3.5	3	3	25	...	...	...	...
	Total ...	10.5	8.5	7	6	19	8	11	4	5
	Last Settlement ...	12	16	7	10	7	8	11	3	4

Before 1901 the alienations were considerable, but since the passing of the Alienation of Land Act matters have improved, and a larger proportion goes to members of agricultural tribes. Prices have doubled in Wazirabad and more than trebled in the remaining two tahsils since the Alienation of Land Act was passed.

55. The commutation prices sanctioned at last settlement and now are in annas per maund :—
Prices of produce.

Staple.	LAST SETTLEMENT.		Now.
	Wazirabad and Gujranwala.	Sharakpur.	
Rice	20	20	28
Cotton	58	53	74
Gur	43	40	57
Maize	20	19	28
Jowar	18	18	28
Bajra	21	18	27
Pulses	21	21	40
Wheat	25	24	34
Barley	16	17	22
Gram	18	18	23
Oilseeds	53	32	52

The rise as worked out in the assessment report is :—

	Harvest prices.	Assumed prices.
Wazirabad	36	36
Gujranwala	39	38
Sharakpur	77	44

These figures show that those assumed for Wazirabad and Gujranwala at last settlement corresponded with harvest prices, but were too low for Sharakpur. Compared with existing prices those assumed for this settlement are low for some staples.

56. The rates of yield are given and discussed in the assessment reports, and subsequent experiments have not caused me to modify my opinion. The changes made on the figures adopted at last Settlement are as follows :—

Yield of crops.

- In the Wazirabad Chenab circle the rates of *sailab* wheat and barley were raised from 5 to 6 maunds.
- In Gujranwala the rate of *gur* in the Bar circle was raised to 16 maunds, of *chahi* cotton from 4 to 5 maunds, of maize from 8 to 10 maunds, of *torta* from 4 to 5 maunds in the Charkhari and Bangar and 6 maunds in the Bar, of *chahi* wheat from 9 to 10 maunds in the Bar. For *barani* wheat 6 maunds were taken throughout and for gram 8 maunds.
- In Sharakpur Tahsil the yield of rice was raised to 20 maunds throughout, of maize from 7 and 6 maunds to 10 in the Kalrathi and Bar circles, of *chahi* cotton from $3\frac{1}{2}$ and $3\frac{1}{2}$ to 4 and 5 maunds respectively in the Gasrah and Bar circles. *Nahri* cotton in the latter was taken at 4 maunds. The rate of *chahi* wheat was raised from $9\frac{1}{2}$, $8\frac{1}{2}$ and $7\frac{1}{2}$ to 10, 9 and 10 maunds respectively for the Rohi, Gasrah and Bar circles, and of *barani* wheat from 4 to 5 maunds in all the circles except the Gasrah. Barley was taken at a lower rate by Mr. Walker and has been raised to the wheat figures in all circles. Gram was raised from 4 to 6 maunds in the Gasrah and from 6 to 8 in all the remaining circles.

For *toria* Mr. Walker took 2 maunds throughout. I raised to 5 in the Bar, 4 for *chahi* in the remaining circles and 3 for *barani* for all circles.

57. The area cultivated by tenants-at-will under different kinds of rents will be clear from the following, the figures being percentages on cultivated area :—

Tahsil.	Circle.	CULTIVATED BY OWNERS.		CULTIVATED BY OCCUPANCY TENANTS, &C.		BY TENANTS-AT-WILL PAYING RENTS.							
						Kind.		Cash.		Mixed kind and cash.		Total.	
		Last Settlement.	Now.	Last Settlement.	Now.	Last Settlement.	Now.	Last Settlement.	Now.	Last Settlement.	Now.	Last Settlement.	Now.
WAZIR-ABAD.	Charkhari ...	42.5	30	17.5	10	7	11	12.5	14	20.5	28	40	51
	Bangar ...	48	43	15	7	6	19	23	20	11	11	40	50
	Chenab ...	50	48	11.5	8	18.5	24	16	18	8	7	38.5	44
GURJAN-WALA.	Charkhari ...	...	32	...	8	...	13	...	16	...	31	...	60
	Bangar ...	...	42	...	8	...	23	...	14	...	18	...	50
	Bar ...	...	43	...	7	...	30	...	18	...	2	...	50
	Tahsil ...	42	38	6	8	11	20	23	10	18	18	52	54
SHARAF-PUR.	Rohi ...	47	43	5	8	13	25	35	16	...	8	48	49
	Kalrathi ...	52	45	1	4	36	45	11	4	...	2	47	51
	Gasrah ...	48	84	6	10	32	47	14	5	...	4	46	56
	Bar ...	52	26	2	1	21	67	25	7	...	...	46	74

The facts deserving note are the decrease in area cultivated by owners, due to grant of lands in the colonies, the increase in area under kind rents and decrease in that under cash rents, mostly due to extension of unirrigated cultivation and an increase in lands paying mixed cash and grain rents, which are in favour for well lands and give the most important assessment basis for the two Charkhari circles.

58. The average rates of kind rents are summarized below in percentages :—

Kind rents.

Tahsil.	Circle.	CHAKH.		NAHRI.		UNIRRIGATED.		TOTAL.	
		Last Settlement.	Now.	Last Settlement.	Now.	Last Settlement.	Now.	Last Settlement.	Now.
		Last Settlement.	Now.	Last Settlement.	Now.	Last Settlement.	Now.	Last Settlement.	Now.
WAZIR-ABAD.	Charkhari ...	...	37	...	...	...	35	39	37
	Bangar ...	...	33	...	...	...	33	36	33
	Chenab ...	...	37	...	...	...	37	37	37
GURJAN-WALA.	Charkhari ...	...	33	...	...	...	34	33	34
	Bangar ...	...	31	...	...	...	31	29	31
	Bar ...	...	26	...	...	...	30	25.5	29.5
SHARAF-PUR.	Rohi ...	25	25	...	...	26	30	...	...
	Kalrathi ...	23	23	...	25	25	30	...	...
	Gasrah ...	30	30	...	...	46	46	...	...
	Bar ...	19	23	...	34	20	30	...	...

There is a falling off in the Wazirabad Charkhari and Bangar, no change in the Chenab and Gasrah circle and a rise elsewhere. The falling off in the former is due to the fact that at the last settlement there was a great demand for land, whereas now there is a demand for tenants.

In the Wazirabad and Gujranwala Tahsils straw is seldom divided, but *chari* and turnips are.

In Sharaqpur no straw is taken on *chahi* and *abi* crops, but is taken in case of *nahri*, *sailab* and *barani* crops.

59. It was found from enquiries that the only menials necessary for agriculture and who are invariably paid out of the common heap are the potter, carpenter and blacksmith. In some villages barbers, *mochis* and sweepers are also paid, but either for personal services or for labour which the owners or tenants are too lazy to perform. Accordingly in calculating the net share of the produce the landlords receive, deductions were made only for the three menials mentioned above.

The rates and calculations are given in the assessment reports. The deductions made are much less than those at last settlement.

60. The kind half net assets estimate was prepared on the harvest results of the five years ending 1909-10. The nature of the different harvests are described in the assessment reports. It was held by the Financial Commissioner that for the Wazirabad and Gujranwala tahsils this cycle was below normal, as it included the very bad years of 1906-07 and 1907-08, and he revised the figures by excluding these years and taking the remaining three only. For Sharaqpur Tahsil the cycle was accepted as normal.

As a good deal of *barani* crops are sown on *chahi* and other lands in good years, the kind rates could not be worked out on cultivated lands, and had to be shown on sown lands. These rates accordingly are not soil rates.

The results are—

1	2	3	4	5	6	7	8	9	10	11	12
Tahsil.	Circle.	RATES ON SOWN AREA.				Rate on cultivation.	Total half net assets.	Total half net assets as revised by Financial Commissioner.	HALF NET ASSETS OF LAST SETTLEMENT.		Increase of column 8 on 10.
		Chahi and Abi.	Barani.	Sailab.	Nahri.				Amount.	Rate.	
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs.	Rs.	Rs.	Rs. A. P.	
WAZIRABAD.	Charkhari ...	3 0 11	1 0 7	...	...	2 9 0	1,84,594	2,09,333	1,73,518	2 5 3	6
	Bangar ...	2 3 7	1 1 5	...	...	1 11 1	91,604	98,004	87,518	1 7 6	10
	Chenab ...	2 11 10	0 14 4	1 8 0	...	1 15 2	65,072	75,544	58,093	1 12 0	12
	Tahsil ...	...	...	...	...	...	3,41,270	3,82,881	3,15,129	...	9
GUJRANWALA.	Charkhari ...	3 0 3	1 6 1	...	...	2 3 4	2,85,945	2,99,401	2,00,000	1 8 1	43
	Bangar ...	2 14 1	1 4 8	...	...	1 12 0	2,06,047	2,32,119	1,22,500	1 0 3	67
	Bar ...	2 5 9	1 2 10	...	...	1 4 6	79,654	87,944	48,500	0 13 1	64
	Tahsil ...	...	...	...	...	...	5,70,646	6,09,464	3,71,000	...	14
SHARAPUR.	Rohi ...	1 15 3	1 9 4	Abi.	...	1 12 7	1,01,770	...	50,243	0 15 10	102
	Kalrathi ...	1 9 6	1 5 6	...	...	1 3 10	74,278	...	30,209	0 9 2	146
	Gasrah ...	2 0 5	1 10 0	...	...	1 14 4	62,720	...	34,849	1 3 0	90
	Par ...	1 10 0	1 9 4	...	...	2 11 1	1,29,856	...	4,555	0 6 5	2,751
	Tahsil ...	...	...	...	...	...	3,68,624	...	1,19,856	...	208

61. The importance of cash and mixed cash and grain rents especially in the Wazirabad and Gujranwala Tahsils, is clear from the statement in paragraph

Cash rents.
57 and the subject has been treated in detail in the assessment reports. Enquiries show that these rents are generally realized in full. The mixed rents are most common on wells in the Charkhari circles and cash rents prevail in the Bangar circles and on *barani* lands elsewhere. In the Chenab circle they are paid mostly on the valuable wells near towns and are consequently too high to be used for the circle.

The results compare as follows with those of last settlement, and have been worked out on cultivated area :—

Tahsil.	Circle.	CASH RENTS.			MIXED CASH AND GRAIN RENTS.		
		Last Settlement.	Now.	Increase per cent.	Last Settlement.	Now.	Increase per cent.
		Rs. A. P.	Rs. A. P.		Rs. A. P.	Rs. A. P.	
WAZIRABAD.	Charkhari ...	3 7 4	4 0 0	16	4 13 0	5 3 2	8
	Bangar ...	2 1 0	3 4 4	59	3 2 0	4 9 2	46
	Chenab ...	3 3 4	5 7 0	69	4 8 0	5 9 0	24
GUJRANWALA.	Charkhari ...	2 10 3	3 14 6	48	2 15 0	3 15 5	45
	Bangar ...	1 12 6	2 10 7	49	2 9 0	3 12 7	48
	Bar ...	1 8 0	2 3 3	47	1 8 0	3 5 5	123
SHARAFPUR.	Robi ...	2 4 3	3 12 0	22	...	3 9 5	...
	Kalratbi ...	1 4 11	1 14 0	43	...	1 10 10	...
	Gasrah ...	2 1 10	2 13 9	35	...	4 4 3	...
	Bar ...	1 5 7	4 6 0	224	...	...	...

There has been a substantial rise in all circles except the Wazirabad Charkhari which was highly developed at last settlement.

In the Sharafpur Bar Circle the cash rents are chiefly on *nahri* land which did not exist at last settlement.

62. The kind, cash and mixed half assets rates compare as follows :—

Kind and cash rents compared.

Tahsil.	Circle.	Kind half assets rates on sown area.	Cash rates on cultivated area.	Mixed cash and grain rates on cultivated area.
		Rs. A. P.	Rs. A. P.	Rs. A. P.
WAZIRABAD.	Charkhari ...	2 9 0	2 0 0	2 9 7
	Bangar ...	1 11 1	1 10 2	2 4 7
	Chenab ...	1 15 2	2 11 6	2 12 6
GUJRANWALA.	Charkhari ...	2 3 4	1 15 3	1 15 9
	Bangar ...	1 12 0	1 5 3	1 14 3
	Bar ...	1 4 6	1 1 7	1 10 3
SHARAFPUR.	Robi ...	1 12 7	1 6 0	1 12 3
	Kalratbi ...	1 3 10	0 15 0	0 13 5
	Gasrah ...	1 14 4	1 6 10	2 2 1
	Bar ...	2 3 1	2 3 0	.....

63. The assessment report for the Wazirabad tahsil was submitted in 1910 and orders thereon received in July 1911. The reports on Gujranwala and Sharaqpur were sent up during 1911, orders on the former were received in June 1912 and those on Sharakpur in August 1912. When working out village assessments it was found that the results of the new survey for estates completed by then showed considerable differences in classes of cultivated area. Lands which were shown as *chahi* had become *barani* and in some cases waste. Wells which were unfit for use and non-existent for years were still shown as fit for use, and their *abianas* had not been remitted. It was therefore considered unsafe to work on the old figures and it was decided to wait until the new statistics were available for all estates, which was in September 1912.

The following alteration had to be made in the sanctioned rates in order to bring out the sanctioned demand :—

Tahsil.	Circle.	Class of land.	Sanctioned rates.	Rates adopted.
			Rs. A. P.	Rs. A. P.
WAZIRABAD.	Charkhari	Chahi ...	2 0 0	2 1 6
		Barani ...	1 4 0	1 4 0
	Bangar	Chahi ...	1 8 0	1 8 0
		Barani ...	0 15 0	1 0 0
	Chenab	Chahi ...	2 1 0	2 2 0
		Sailab ...	1 2 0	1 4 0
		Barani ...	1 0 0	1 0 0
GUJRANWALA.	Charkhari	Chahi ...	1 12 0	1 14 0
		Barani ...	1 0 0	1 0 0
	Bangar	Chahi ...	1 4 0	1 6 0
		Barani ...	1 0 0	1 0 0

No alteration was needed in the Sharaqpur tahsil. Soil rates tend to give a relatively higher assessment in inferior estates where the area of matured crops is a smaller percentage as compared with those in which there is intensive cultivation and a large amount of double-cropping. Accordingly crop rates were worked out for each estate and applied to the matured areas of the five years, and the new demands were mostly based on these, modified by soil rates and other considerations, the chief one being the rent rates and size of holdings. The village assessments were worked out and announced from October 1912 to January 1913.

64. The system of assessment sanctioned for the Wazirabad tahsil is as follows :—

Wazirabad talqil system of assessment.

- (a) In the Charkhari circle fixed assessments have been maintained as before, but lands which may get canal irrigation from the Upper Chenab Canal will pay at the village *nahri* rate per acre sown in the harvest, and this demand will be in addition to the fixed demand.

(b) In the Bangar circle the estates which get irrigation from the Lower Chenab Canal and those which have become seriously waterlogged have been put under entire fluctuation, with separate rates for *nahri*, *chahi* and *barani* crops charged on matured areas. In the remaining estates the system is the same as described in paragraph (a). Out of the 85 estates 11 are under fluctuation.

(c) For the Chenab circle entire fluctuation was recommended, but was sanctioned only for those estates below the Khanki Weir which really required it. It was laid down that if any estates above the weir required it hereafter, it could be introduced with the Financial Commissioner's sanction.

For fluctuating assessment each village was given separate rates for *chahi*, *sailab* 1st class, *sailab* 2nd class and *barani* to be charged on matured crops.

When announcing the assessments only 18 estates below the Khanki Weir elected for fluctuation, and fixed demands were maintained in all the rest.

Canal irrigation from the Upper Chenab Canal will be for *kharif* only and limited to waste lands and will be under fluctuation all over, being assessed at the village *nahri* rate on sown area.

65. The rates and total demand proposed, sanctioned and actually imposed are given below :—

Assessment, Wazirabad Tehsil.

Circle.	Class of land.	Proposed.			Sanctioned.			Announced.	Demand of 1909-10.	Increase per cent.
		Rs.	A.	P.	Rs.	A.	P.			
Charkhari ...	Chahi ...	2	0	0	2	0	0	1,37,520	1,20,942	14
	Barani ...	1	4	0	1	4	0			
	Demand ...	1,39,547			1,37,000					
Bangar ...	Chahi ...	1	8	0	1	6	0	69,953	56,214	25
	Barani ...	1	0	0	0	15	0			
	Demand ...	76,414			70,000					
Chenab ...	Chahi ...	2	4	0	2	1	0	52,275	45,916	14
	Sailab I ...	1	12	0	1	2	0			
	Sailab II ...	1	4	0						
	Barani ...	1	0	0						
	Demand ...	49,382			52,196					

The rates proposed for the Chenab circle were for fluctuation, those sanctioned are for fixed demand. For fluctuation the proposed rates were sanctioned except *sailab* II which was lowered to Re. 1.

Of the demand of Rs. 69,953 announced in the Bangar circle, Rs. 65,862 is fixed and Rs. 4,591 estimated average in the estates under fluctuation. These figures do not include the assessment of canal irrigation from the Lower Chenab Canal which was disposed of in 1906 with the Hafizabad settlement. Of the demand announced for the Chenab circle Rs. 46,709 is fixed, and the rest is the estimated average assessment in the 17 estates under fluctuation

which are all inferior ones. The village fluctuating rates announced for non-canal crops classify as below :—

	Chahi.		Sailab I.			Sailab II and barani.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
	2-0-0.	1-8-0.	1-12-0.	1-8-0.	1-4-0.	1-4-0.	1-2-0.	1-0-0.
Chenab circle ...	8	7	1	10	6	8	8	6

	Chahi.			Barani.			
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
	1-8-0.	1-4-0.	1-0-0.	1-4-0.	1-0-0.	0-14-0.	0-12-0.
Bangar Circle ...	6	4	1	1	6	3	1

The new demand represents 75, 73 and 70 per cent., respectively, of the half assets accepted by the Financial Commissioner.

66. The average rate sanctioned for this tahsil for assessment of irrigation from the Upper Chenab Canal is Rs. 2-4-0 per acre sown.

Canal rates, Wasirabad Tahsil.

As this irrigation will be confined to waste lands it was not easy to differentiate from village to village. In the majority Rs. 2-4-0 was announced, in a few where the waste was above average Rs. 2-8-0 was given out, and in some with inferior *kalrathi* or sandy waste rates of Rs. 1-8-0, Rs. 1-12-0 and Rs. 2 were given out. These rates therefore vary from Rs. 1-8-0 to Rs. 2-8-0 per acre as below :—

Number of estates in which rates are :—

Circle.	Rs.	Rs.	Rs.	Rs.	Rs.
	2-8-0.	2-4-0.	2-0-0.	1-12-0.	1-8-0.
Charkhari ...	8	85	10	11	1
Bangar ...	3	27	15	6	5
Chenab ...	Nil.	10	5	Nil.	Nil.

Preliminary waterings for *rabi* will be assessed to occupier's rate only in the whole tract.

67. In the Gujranwala tahsil there are estates belonging to all three zones (paragraph 9), and the system of assessment sanctioned for C zone is the same as described in paragraph 64 (a).

Gujranwala Tahsil : system of assessment.

For estates of the B zone, the assessments on wells are fixed (covering all *chahi* crops on the well) the rest fluctuating. In the A zone all the assessments are fluctuating.

The number of estates in each zone is—

	A.	B.	C.
Charkhari ...	44	13	145
Bangar ...	97	13	55
Bar ...	74	Nil	Nil
Total ...	215	26	200

68. The rates and demand proposed and sanctioned for the Gujranwala tahsil is—
Gujranwala Tahsil assessment.

Circle.	Class of land.	PROPOSED.		SANCTIONED.	
		Fixed.	Fluctuating.	Fixed.	Fluctuating.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Charkhari ...	Chahi ...	1 12 0	2 0 0	1 12 0	2 4 0
	Barani ...	1 0 0	1 0 0	1 0 0	1 4 0
	Total Rs.	2,04,800		2,04,800	
Bangar ...	Chahi ...	1 6 0	1 8 0	1 4 0	1 8 0
	Barani ...	0 15 0	1 4 0	1 0 0	1 4 0
	Total Rs.	1,39,662		1,35,000	
Bar ...	Chahi ...	1 2 0	1 4 0	...	1 4 0
	Barani ...	0 12 0	1 0 0	...	1 4 0
	Total Rs.	55,500		60,000	

This demand represents 77 and 66 per cent. of the half assets as estimated by the Financial Commissioner for the Charkhari and Bangar circles.

The demands announced in C zone estates of the Charkhari and Bangar circles are as follows :—

					Demand of 1909-10.	New demand.	Increase per cent.
					Rs.	Rs.	
Charkhari	...	...	...	...	1,15,497	1,42,550	23
Bangar	...	...	...	...	33,763	42,340	25

Rupces 200 are deferred in the Bangar for 5 years. The sanctioned increases for these circles are 21½ and 25 per cent. The excess in the Charkhari circle is due to the towns of Gujranwala and Eminabad being in the C zone. The fixed *chahi* assessments given out in estates of the B zone are Rs. 6,605 for the Charkhari, Rs. 6,400 for the Bangar and the fluctuating village *barani* rates worked out on the matured areas of the five years adopted for assessment purposes give average circle rates of Re. 1-3-9 for both circles.

The village *chahi* and *barani* rates announced for estates in the A zone give average circle rates as under :—

					Chahi.	Barani.
					Rs. A. P.	Rs. A. P.
Charkhari	...	...	...	...	2 4 6	1 4 2
Bangar	...	...	...	...	1 8 0	1 4 0
Bar	...	...	...	...	1 5 0	1 4 4

and classify as follows :—

		Chahi.										
		Rs. 3-0-0.	Rs. 2-8-0.	Rs. 2-4-0.	Rs. 2-0-0.	Rs. 1-12-0.	Rs. 1-8-0.	Rs. 1-6-0.	Rs. 1-4-0.	Rs. 1-2-0.	Rs. 1-0-0.	Rs. 0-12-0.
Charkhari	...	1	7	14	13	...	1	...	...	...	...	...
Bangar	...	...	...	...	...	18	49	1	27	...	2	...
Bar	...	...	...	...	...	...	7	14	43	6	3	...
		Barani.										
Charkhari	...	...	...	...	...	...	2	3	29	5	8	...
Bangar	...	...	...	...	...	...	9	7	65	8	20	1
Bar	...	...	...	...	...	...	6	13	38	10	7	...

The results may be summarized as follows :—

					Charkhari.	Bangar.	Bar.
					Rs.	Rs.	Rs.
Fixed assessment in C zone	...	...	...	...	1,42,550	42,340	Nil.
Fixed chahi in B zone	...	...	...	...	8,005	6,400	Nil.
Average fluctuating assessment worked out on five years 1904-05 to 1909-10.	...	...	...	...	50,533	76,474	56,293
Total					2,01,088	1,25,214	56,293

This demand falls short of that approved by the Financial Commissioner in each circle, and this is due to the estimated fluctuating assessment being worked out on matured crops of five years ending 1909-10, which was characterized as below average. The Financial Commissioner based his figures on the three years 1905-06, 1908-09 and 1909-10. Compiling of figures for these years by zones for each assessment circle would have involved considerable labour for which the staff had no time. In addition to the above, Rs. 844 have been assessed on 72 acres of land in Gujranwala town which came under houses and factories &c., after the last settlement.

69. The average rate sanctioned for assessment of land irrigated from the Upper Chenab Canal for all three circles of this tahsil is also Rs. 2-4-0 per acre sown, with minimum of Re. 1-8-0 in all circles and maximum of Rs. 3 in the Charkhari and Rs. 2-8-0 in the Bangar and Bar circles. The village rates announced are multiples of four annas and classify as follows :—

		Number of estates with rates of						
Circle.		Rs. 3-0-0.	Rs. 2-12-0.	Rs. 2-8-0.	Rs. 2-4-0.	Rs. 2-0-0.	Rs. 1-12-0.	Rs. 1-8-0.
Charkhari	...	1	7	23	123	23	10	15
Bangar	...	Nil.	Nil.	13	96	24	16	16
Bar	...	Nil.	Nil.	12	46	9	2	4

70. In the Sharaqpur tahsil all estates getting perennial irrigation from the canal, whether in the A or B zones have been put under entire fluctuation. All estates in the C zone in the Khadar and in northern Bangar circles have the same system as similar estates in the other tahsils, *viz.*, fixed demand, *plus* a fluctuating assessment on canal irrigated crops.

For the Eastern Bangar circle although in the C zone, entire fluctuation was sanctioned on the ground that the Deg embankment will cause cessation of all floods in the nullahs on which the agriculture of this circle mainly depends (even the wells being aided by such floods) and past conditions will entirely change and no fixed assessments could be framed with any confidence.

At the time of announcements however the owners of several estates pressed for a fixed demand, and wherever the records showed that *nullah* floods were unimportant or did not exist at all, fixed assessments were maintained.

The results by assessment circles are—

Circle.	NUMBER OF ESTATES IN ZONE.			
	A	B	C (fixed).	C (fluctuating).
Rohi	21	37	81	3
Kalrathi	2	52	44	56
Gasrah	<i>Nil</i>	<i>Nil</i>	60	<i>Nil</i> .
Bar	48	<i>Nil</i>	<i>Nil</i>	<i>Nil</i> .

71. The rates and demand proposed and sanctioned for the Sharaqpur tahsil are—

Circle.	Class of land.	PROPOSED RATES.		SANCTIONED.	
		Fixed.	Fluctuating.	Fixed.	Fluctuating.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Rohi	Chahi ...	1 6 0	1 12 0	1 6 0	1 12 0
	Abi ...	1 12 0	2 4 0	1 12 0	2 4 0
	Barani ...	1 0 0	1 4 0	1 0 0	1 4 0
	Total demand, Rs.	75,860		75,860	
Kalrathi	Chahi and abi ...	1 0 0	1 10 0	1 0 0	1 10 0
	Barani and sailab	0 12 0	1 2 0	0 12 0	1 2 0
	Total demand, Rs.	55,000		55,000	
Gasrah	Chahi ...	1 6 0	<i>Nil</i>	1 6 0	<i>Nil</i> .
	Barani ...	1 0 0	<i>Nil</i>	1 0 0	<i>Nil</i> .
	Demand, Rs.	41,000		42,500	
Bar	Nahri ...	...	2 12 0	...	3 12 0 for colonies, 2 8 0 for rest.
	Chahi ...	...	1 2 0	...	1 4 0
	Barani ...	...	0 12 0	...	0 12 0
	Demand, Rs.	97,740			

The sanctioned rates represent 75, 69, 68 and 75 per cent. of the half assets and give increases of 37, 42, 24 and 127 per cent. respectively over the demand for 1909-10. The fixed assessments announced are given below—

Circle.	Demand of 1909-10.	New demand.	Increase per cent.
	Rs.	Rs.	
Rohi	34,557	47,943	39
Kalrathi	10,445	15,185	45
Gasrah	33,812	41,617	23

The following amounts have been deferred for five years :—

	Rs.
Rohi	1,826
Kalrathi	515
Gasrah	110

In the Gasrah circle Rs. 285 had to be reduced on account of land coming under the Deg embankment.

The fluctuating non-canal rates announced classify as follows :—

Circle.	NUMBER OF ESTATES WITH RATES OF										
	Rs. 1-12-0.	Rs. 1-10-0.	Rs. 1-8-0.	Rs. 1-6-0.	Rs. 1-4-0.	Rs. 1-2-0.	Rs. 1-0-0.	Rs. 0-14-0.	Rs. 0-12-0.	Rs. 0-10-0.	Rs. 0-8-0.
Chahi.											
Rohi	39	...	17	1	4	1	1	...	...	...	...
Kalrathi	46	24	21	4	6	...	...	...	...	...	...
Bar ... ..	...	...	...	4	27	5	3	...	...	...	...
Barani.											
Rohi ... ..	...	...	1	...	48	3	11	...	...	...	...
Kalrathi ... ..	...	...	...	...	31	37	23	3	7	...	...
Bar ... ..	...	...	...	...	...	...	2	4	33	5	4

The application of these rates to the matured areas of the five years ending 1909-10 gives the following results :—

	Rs.
Rohi	27,867
Kalrathi	39,268
Bar	11,765

The *nahri* rates sanctioned for this tahsil are—

Circle.	Average.	Maximum.	Minimum.
	Rs. A. P.	Rs. A. P.	Rs. A. P.
Rohi	2 4 0	2 8 0	1 8 0
Kalrathi	2 0 0	2 8 0	1 8 0
Gasrah	2 0 0	2 8 0	1 8 0
Bar circle, old estates	2 8 0	4 8 0	1 8 0
Ditto, new estates	3 12 0	4 8 0	1 8 0

There is a good deal of canal irrigation by lift in this tahsil on the Lower Chenab Canal, and the rates sanctioned for this are ten annas per rupee of the flow rate of the estate, but in no case to be below the *chahi* rate of the estate.

The village rates announced are as follows :—

Circle.	NUMBER OF ESTATES WITH RATES OF									
	Rs. 4-8-0.	Rs. 4-0-0.	Rs. 3-8-0.	Rs. 3-0-0.	Rs. 2-12-0.	Rs. 2-8-0.	Rs. 2-4-0.	Rs. 2-0-0.	Rs. 1 12 0	Rs. 1-8-0.
Rohi	31	81	18	10	5
Kalrathi	11	33	54	27	19
Gasrah	3	40	11	7
Bar old estates	5	3	17	5	8	...	3
Bar colonies	...	3	2	3	...	...	...	...	...	...

The application of these rates in estates which get irrigation from the Lower Chenab Canal to sown areas of five years ending 1909-10 gives the following results :—

						Average demand.	Incidence.
						Rs.	Rs. A. P.
Old estates	...	...	...	...	...	75,758	2 8 7
New chahs.	...	...	...	...	...	28,278	3 12 5

The results for the tahsil are—

Circle.				Fixed.	Fluctuating.	Total.	Estimated by Financial Com- missioner.
				Rs.	Rs.	Rs.	Rs.
Rohi	...	...	...	47,948	37,867	75,810	75,860
Kalrathi	...	...	...	15,165	39,268	54,453	55,000
Gasrah	...	...	...	41,617	...	41,617	42,500
Bar	...	...	...	—	1,15,801	1,15,801	1,17,596

The difference in the Bar circle is due to adoption of different figures, my estimate being based on sown areas supplied by the Irrigation Department.

Results of re-assessment.

72. The results of the re-assessment are—

Tahsil.	Demand of 1909-10.	Sanctioned demand.	Estimated and actually announced.	Estimated in forecast report.	INCREASE.	
					Total.	Per cent.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Wazirabad	2,23,072	2,59,193	2,59,748	2,86,826	36,676	16
Gujranwala	8,19,764	3,99,800	3,82,595	3,91,957	62,831	20
Sharaqpur	1,72,880	2,90,956 (estimated)	2,87,681	2,45,837	1,14,801	66
Total	7,15,716	9,49,952	9,30,024	9,24,620	2,14,808	...

The difference in the figures of columns 3 and 4 for Gujranwala and Sharaqpur has already been explained in paragraphs 68 and 71.

73. *Nahri* rates were also fixed and announced for those estates of the Hafizabad and Khangah Dogran tahsils which will get irrigation from the Upper Chenab Canal. The average rate sanctioned was Rs. 2. The village rates announced are—

Rate.			Number of estates.		
Rs.	A.	P.			
2	8	0	...	...	13
2	4	0	...	...	6
2	0	0	...	...	28
1	12	0	...	...	12
1	8	0	...	...	9

74. One hundred and eleven estates filed objections to the assessment announced. In 13 these were accepted and some modification made. The rest were rejected.

Twenty-three of the latter appealed to the Commissioner and the appeals were all rejected.

75. The orders regarding agency for assessing fluctuating revenue are that in estates getting perennial irrigation from the canal this work will be done by the canal staff and in all others including estates with canal irrigation for *kharif* only all assessment including the canal rates will be made by the district staff.

76. There has been a substantial decrease in cesses from about 21 per cent. at last settlement to 13½ per cent. now. This is due to the abolition of *patwar* cess (5 per cent.), *ala lambardari* cess (1 per cent.) and reduction of one-fifth in the local rate. The cesses now payable are—

				Rs.	A.	P.
Local rate	...	...	...	8	5	5 per cent.
<i>Lambardari</i>	...	...	...	5	0	0 „

77. Protective leases for 20 years have been given for all wells constructed after the last settlement and for varying periods not exceeding 10 years for repaired ones. The number of new wells sunk is about three thousand.

In estates where well irrigated crops are under fluctuation those irrigated from protected wells will be assessed at the *barani* rate. In others the well *abiana* has been fixed for each well and entered in the distribution file and *jamabandi*, and this will be remitted during the term of the certificate. This lump sum will also be remitted when the well becomes unfit for use or goes out of use through desertion of tenants or other causes beyond the control of the owners.

78. At the last settlement the amounts payable at each harvest were not proportioned to the crops as the owners did not agree to any change (paragraph 161 of Gujranwala and 112 of Lahore settlement report). A much larger proportion was payable for the *kharif* than could be justified by the area under that harvest. Since then the area of *rabi* crops has increased considerably all over and the owners agreed to change the instalments. In the majority of estates one-third for *kharif* and two-thirds for *rabi* has been accepted. In some where *kharif* cropping is nominal the instalment for that harvest has been made one-fourth and *rabi* three-fourth. The old rates of half and half or *kharif* two-fifths and *rabi* three-fifths have only been retained in estates where a good deal of rice is grown, or where the owners are wealthy or in towns where garden cultivation is extensive.

79. The dates for payment of the instalments were—

Dates of instalments.

					Kharif.	Rabi.
Gujranwala	...	...	...	...	15th December ... 15th February ...	25th June.
Wazirabad	...	...	...	...	Ditto	1st July.
Sharaqpur	...	...	...	...	Ditto	15th June. 15th July.

When announcing the new demands the owners were consulted, and the unanimous opinion was that payment in two instalments was not convenient and caused confusion of accounts, double burden and expense. With the concurrence of owners single instalments payable on 1st July and 1st February were recommended and sanctioned by the Financial Commissioner.

80. The new assessments were brought into force as follows :—

Term of settlement.

Wazirabad Chenab Circle	...	...	Kharif 1912.
Do. Charkhari and Bangar	...	...	Do. 1914.
Gujranwala Tahsil	...	...	Do. 1912.
Sharaqpur Tahsil	...	...	Rabi 1913.

The term for which this settlement will be in force has to be decided now. No announcement was made to the people, nor was it discussed in the assessment reports, except that for the Eastern Bangar circle of the Sharaqpur tahsil the Financial Commissioner suggested ten years and for the colony chaks the same period as for the Gugera Branch circle, II (paragraph 38 of Financial Commissioner's orders on Sharaqpur report), and for the Gujranwala Tahsil paragraph 7 of the Government orders contemplates a short term. For the rest of the tract the following points deserve consideration :—

- (a) Conditions are undergoing a radical change.
- (b) Estates in A and B zones are fully provided for any changes which may take place.
- (c) Estates in C zone which will get no canal irrigation are highly developed ones with the best well cultivation and are fully assessed. The attraction of canal irrigation elsewhere is likely to draw away tenants and reduce their resources. In the Sharaqpur tahsil provision has been made for introduction of fluctuation in such estates if necessary by paragraph 4 of the orders of Government on the assessment report, but no such provision has been made in the remaining tahsils although it was recommended.
- (d) Fairly full rates have been fixed for canal irrigation in all estates.
- (e) The next revision of assessment in this tract should not require any re-survey, and if the records are kept up-to-date should cause no harassment.
- (f) It is understood that the partition of the Gujranwala district has been decided upon, and both districts to be made out of it will contain portions of this tract as well as of the Hafizabad and Khangah Dogran tahsils, the term of settlement whereof will expire in 1924-25.

As I do not know the details of the proposed partition of the district, leaving this out of consideration my opinion is that the term should be for twenty

years, but it should be laid down that if any of the estates mentioned in clause (c) show substantial reduction in sources relief should be granted to them within the sanctioned term either by introduction of fluctuation or by lowering of the fixed demand.

CHAPTER V.—Distribution of Assessments.

81. At the last settlement the distribution of the demand over holdings was made by one of the following methods :—

Previous methods.

- (a) All round rate on cultivation.
- (b) Proportional rates for different classes of land.
- (c) A fixed lump sum on wells, classified into grades according to their quality and the rest by an all-round rate on cultivation.

When inspecting estates and studying the condition of different wells, I found that often the demand pressed heavily on inferior wells and was very light on the rich highly rented ones. This is bound to be the case if distribution is based on cultivated area, as wells with inferior soil have much larger cultivated areas in proportion to cropping than the good ones in which cropping often exceeds cultivation. The imposition of higher lump sums as *abianas* did something to reduce this inequality, but this was inadequate. For instance, it was found that a well paying a cash rent of Rs. 80 was assessed at Rs. 86 and another paying over Rs. 600 at Rs. 80.

82. It was accordingly decided to assess each well and unattached plot on its resources. A statement was prepared for every estate showing for each such well or plot the total area, cultivated area with details of classes, the matured average *chahi* and other crops raised on the plot during the last five years, the cash rent paid, or rate of division of produce.

Method now adopted.

On these figures the demand was worked out by rates on cultivation, crop rates on matured areas and cash rent rates or produce net assets rates. After full consideration of these the suggested new demand was entered in pencil and compared with the old demand. The owners were then collected and the entries of the statement were read over and explained to them, and if they proposed any modification with good grounds it was accepted and necessary alteration made. The file was then sent up for orders and the final amounts for each plot were sanctioned by me and then announced.

In the case of estates where cash rents prevailed the distribution was made by a percentage on the rents, for the wells (if any) paying kind rents a produce estimate being worked out.

83. This method involved immense labour for the whole staff, and in the beginning the Tahsildars and Naib Tahsildars could not understand it, and I had to work out the files of a couple of estates in each tahsil myself in the presence of all the officials. After that every one did well. In the case of some weak Naib Tahsildars I had to scrutinize each item and make many alterations, but some of the good ones did the work very well, and very few alterations had to be made.

Its results.

Of course the new demand could hardly be compared with the old one, and most of the objections to it were on the ground that whereas the demand on the objector's well had been raised 50 per cent. or 100 per cent. that on some others was not raised at all or raised very little. On the facts being explained, most of the objectors were satisfied. There were 107 formal objections, of which 101 were rejected, and in six cases some modification made. There were only four appeals to the Commissioner of which three were rejected.

To my knowledge the distribution made has given entire satisfaction to the people concerned, and has resulted in the demand for each holding being apportioned to its assets.

84. The internal distribution among the sharers of each well or other plot was in most cases made on shares except where the shares in a well cylinder differed from those in the land attached to it. In such cases the lump sum (*abiana*) put on the well to represent the profits of irrigation (see following paragraph) was divided according to shares in the cylinder and the rest according to area of cultivated land in possession.

Distribution among sharers.

85. Although *abianas* have not been generally used for internal distribution they have been fixed by myself for each well for purposes of remission in case of protective certificates or when a well becomes unfit for use. These lump sums represent the portion of the assessment due to well irrigation, and in the majority of cases are based on the difference between the *chahi* and *barani* rates.

Lump sums on wells.

CHAPTER VI.—Miscellaneous.

86. An enquiry into revenue assignments was made and necessary orders passed in each case. With the complete files prepared at the last settlement containing references to all orders the task was easy.

Revenue assignments.

There were altogether 899 cases, 766 in perpetuity or for maintenance of institutions, &c. and 133 for term of settlement. Of the former 736 have been maintained and 80 valued at Rs. 191 recommended for resumption for breach of conditions. Of the latter 126 with assessment of Rs. 584 were resumed and seven assessed at Rs. 234 recommended for continuation.

The new assessment of the assignments continued cannot be ascertained on account of fluctuating assessments.

87. Canal irrigation just beginning and assessments being fluctuating to such a large extent it is impossible to say what proportion of lands will be canal irrigated and what decreases will take place in *chahi* and *barani* cultivation when the canal is in full working. At the same time it was necessary to decide what share of the fluctuating canal rates should be surrendered to the assignees as laid down in Punjab Government proceedings Revenue and Agriculture Nos. 31-32 for April 1909, and Nos. 8-37 for November 1910.

Canal assessments of revenue assigned lands.

A general report on this subject was submitted in which it was proposed that three-fourths of such rates should be assumed as canal advantage and realized by Government and one-fourth surrendered to the assignees. Orders were received that the Financial Commissioners required each case to be separately reported and half a dozen of the most important ones were to be submitted at first as typical cases. This was complied with, and these six cases disposed of four-fifths of the assigned revenue. The remaining one-fifth was spread over 70 cases and it was recommended that the orders passed on the former should apply to the latter.

In deference to the criticism of the Commissioner on the first proposal it was suggested in the case of estates in A and B zones that the difference between the *nahri* and *barani* rates of each estate should be taken as the canal advantage rate, and in C zone where the assessment on *chahi* and *barani* lands is fixed and no *barani* rate for each estate, three-fourths of the *nahri* rate should be assumed as canal advantage. I am however of opinion that the original proposal that three-fourths of the *nahri* rate be taken as canal advantage for all estates in whatever zone they might be is preferable. This can be justified on the ground that the *nahri* rate is generally double or more as compared with the *barani* rate, and the former will be charged on area sown, the latter where fluctuating on matured area and where fixed on cultivated area. The matured *barani* crops do not average more than 75 per cent. of those sown and as a good deal of the lands which will become *nahri* could never be brought under

barani cultivation, surrendering to the assignees one-fourth of the *nahri* rate is extremely liberal and gives them much more than they could ever expect without the canal. As far as I am aware this question has not been decided yet.

88. At the present stage no alteration in *patwaris'* circles or their numbers was found necessary. Canal irrigation will bring large areas of waste under cultivation, and with such a large proportion of fluctuating assessments an increase may become necessary later on. It must be borne in mind that the largest increase in cultivation will be in estates of A and B zones, where all assessment work will be done by canal *patwaris*. The old grading was—

Tahsil.						1st grade.	2nd grade.	3rd grade.	Assistants.
Wazirabad	...	...	...	...	...	20	20	20	4
Gujranwala	...	...	...	...	...	32	33	35	6
Sharakpur	...	...	...	...	...	19	36	19	6

The new standard grading sanctioned by the Financial Commissioners is—

Tahsil.						1st grade.	2nd grade.	3rd grade.	Assistants.
Wazirabad	...	...	...	...	...	15	30	15	4
Gujranwala	...	...	...	...	...	25	50	25	6
Sharakpur	...	...	...	...	...	19	37	18	6

This will be worked up to as vacancies occur in the first grade.

The rates of pay Rs. 14, Rs. 12, Rs. 10 and Rs. 8, respectively, have been maintained. In Sharakpur Tahsil where 1st grade *patwaris* get Rs. 15 in future they will get Rs. 14, the extra rupee in the case of present incumbents being treated as personal allowance.

89. The number of field *qanungos* in each tahsil was :—

						Number of <i>qanungos</i> .	Number of <i>patwaris</i> .	Average per <i>qanungo</i> .
Wazirabad	...	...	...	...	...	3	60	20
Gujranwala	...	...	...	...	...	4	100	25
Sharakpur	...	...	...	...	...	4	74	18½

Mr. (now Sir Michael) O'Dwyer in 1893 recommended the addition of one each in Wazirabad and Gujranwala, and this was supported by the Commissioner and Financial Commissioner but not sanctioned owing to financial exigencies. As supervision work has increased considerably on account of fluctuating assessments in some of the Bangar and Chenab estates of the Wazirabad tahsil and all C zone estates of both tahsils where canal assessments will be made by the revenue staff I repeated the proposal but the addition of one *kanungo* only for Gujranwala Tahsil has been sanctioned.

90. At the last settlement the number of *zails* was reduced in Gujranwala by three and in Wazirabad by six, leaving 17 in the former and 12 in the latter. There has been no change since and none was considered desirable.

Zaildars' arrangements.

at this settlement, except that in my opinion the small zail of Jaura in Wazirabad when vacant should be absorbed in the adjoining zails of Gakhar and Dhaunkal. For the Sharakpur tahsil 10 zails were sanctioned in 1893. In 1906 one was added on account of the extension of canal irrigation from the Lower Chenab Canal, so there were 11 zails when this settlement began. These were unwieldy and required re-arrangement, and the considerable increase in cultivation expected from the new Upper Chenab Canal made it desirable to increase their number. They were accordingly reconstituted and one zail added.

The Machrala zail included the new colony estates which are scattered about and it was found necessary to have a separate zaildar for these. It was therefore proposed that this zail should have two zaildars. These proposals were sanctioned by Government. There are now 17 and 12 zails and zaildars in the Gujranwala and Wazirabad Tahsils respectively and 12 zails and 13 zaildars in Sharaqpur.

91. The *zaildars* in Gujranwala and Wazirabad received one per cent. of the revenue demand of their circles, the remuneration varying from Rs. 136 to Rs. 247. In Sharaqpur there were grades of Rs. 240, Rs. 210, Rs. 175 and Rs. 150.

The graded system has now been introduced into all the tahsils with 3 grades of Rs. 300, Rs. 250 and Rs. 200 each.

The distribution is—

					1st grade.	2nd grade.	3rd grade.
Gujranwala	...	...	...	...	5	6	6
Wazirabad	...	...	...	...	4	4	4
Sharaqpur	...	...	...	...	4	4	5

The total expenditure will be Rs. 10,400 per annum, and will be considerably less than one per cent. of the demand including canal revenue.

The subject of *inamdars* was disposed of before the settlement.

92. At the last settlement all estates in the Wazirabad and Gujranwala Tahsils with *chahi* areas exceeding 50 per cent. were declared secure and the rest insecure. The whole of the Sharaqpur Tahsil was declared insecure.

Under this classification the insecure estates were—

Tahsil.					Assessment circle.		Insecure estates.
Wazirabad	...	...	...	...	Charkhari	...	Nil.
					Bangar	...	5
					Chenab	...	41
Gujranwala	...	...	...	...	Charkhari	...	11
					Bangar	...	54
					Bar	...	62
Sharaqpur	...	...	...	...	All circles	...	At.

Under the system of canal irrigation described in paragraph 9 and assessment given in paragraphs 64, 67 and 70, the insecure estates in the canal commanded tract will become secure. It is difficult to say at present what the

actual state of affairs will be when canal irrigation is fully developed, but it is estimated that two estates in the Wazirabad Bangar, 7 in Gujranwala Char-khari and 10 in Gujranwala Bangar will remain insecure. It is possible that some of the estates which are secure now on account of well irrigation and which being in the C zone will not get any canal irrigation not having any waste lands, may on account of desertion of tenants and falling out of use of wells become insecure and such will require careful watching on the part of the Collector and where necessary relief will have to be given by reduction of assessment or introduction of fluctuation.

The Chenab Circle of Wazirabad is not commanded by the canal, and will suffer further from the weir at Mirala, when cold weather water is taken off for the Upper Chenab Canal. At the last settlement 26 estates of this circle were declared secure and 41 insecure. There are now 66 estates, of which 32 are above the Khanki Weir and 34 below. Fluctuating assessments were sanctioned for the latter, but only 17 elected for these. Of the rest 14 have *chahi* areas above 50 per cent. and are secure. This leaves only 3 insecure and these can get fluctuation when necessary. Above the Khanki Weir 11 estates have *chahi* areas above 50 per cent., and so are secure at present. The rest are insecure, but fluctuation can be introduced at any time with the sanction of the Financial Commissioners. The development of canal irrigation will injuriously affect the Chenab Circle by withdrawing tenants and reducing moisture due to water in the river and the estates under fixed assessment will require careful watching. Introduction of fluctuation will be the best remedy when any relief is required, except in the towns of Wazirabad, Ramnagar and Sodhra.

93. The scheme sanctioned for last settlement and printed as an appendix to the settlement report cannot be improved upon. As the prices adopted in this settlement are very moderate compared with the existing pitch, generally no suspension will be needed for any harvest unless the incidence is at least 50 per cent. higher than the settlement incidence. Considerable attention should however be paid to the average size of holdings. In estates with small holdings the owners have very little surplus stock to sell and pay out of. Arrears should not be collected with *kharif* harvest except in estates where there is a substantial amount of rice grown and the incidence of total collections should not exceed 50 per cent. of the settlement incidence.

94. Alluvion and diluvion is confined to the estates of the Chenab Circle of Wazirabad in which fixed assessments have been maintained. The rules sanctioned at the last settlement and printed as an appendix to the settlement report do not require any change. The only matter for consideration is that the subordinate officials do not observe the spirit of the rules. Newly thrown uplands are generally unculturable sand or rappar. In several estates on account of small holdings owners do not wait until such lands become fit for crops and throw in seed in the hope that some return may be obtained. Very often the crops are miserable, and after some experiment such lands are abandoned, but the assessment once imposed is not remitted until the land comes under river action again. This should be remedied and in my opinion the spirit of the rules provides for this.

95. Instructions for the guidance of revenue and canal officials for assessing fluctuating revenue were drawn up and printed after sanction by the Financial Commissioner.

96. *Rivaj-i-Am* (Code of tribal customs) was prepared for the Gujranwala district at the last settlement, but no English manual thereof. For Sharaqpur tahsil, i.e., Lahore district an English manual was prepared at the last settlement from the vernacular document prepared in 1868.

In this settlement the code of all the tahsils of the old Gujranwala District (Wazirabad, Gujranwala, Hafizabad and Khangah Dogran) was revised and a new one drawn up for Sharapur. This work was all done by Bhai Dalip Singh Extra Assistant Settlement Officer, who assembled the leading men of each tribe at a central place, read over to them the previous answers to each question and noted down their replies. Any alterations made were supported unanimously or by a majority. For the Sharapur tahsil the answers to many questions differed from those in the record of 1868 or in the English manual prepared by Mr. Casson Walker.

Mutations supporting customs were collected and have been referred to in tabular form in the English manual prepared from the revised code.

It was found that in some tribes actual practice differs from the recorded customs, but generally the elders were averse to making alterations on the ground that their ancestors were wiser men.

97. The partition work done during this settlement will be seen from the following statement :—

Partitions.

Year commencing.	Pending from previous year.	Instituted during the year.	Decided.
1st October 1909	272	933	127
1st October 1910	478	82	96
1st October 1911	464	343	245
1st October 1912	553	635	425
1st October 1913	703	...	...

The reasons for leaving such large arrears of this work are three. Firstly, carrying out a partition before *killabandi* was completely finished in any estate would be labour wasted as the work would have to be remodelled on *killas*. For this reason partition work was postponed in each estate when *killabandi* was going on and hardly any was done during the first two years. Secondly, in the third year the staff had heavy work in connection with final attestations and completion of records and had no time to devote to partition work. Thirdly, the institutions during 1912-13 were double the normal on account of introduction of canal irrigation.

98. According to the forecast the settlement should have been completed in three years at a cost of Rs. 4,00,000. It took four years and one month, being completed on 31st October 1914, and the actual cost was Rs. Rs. 4,35,486, the increase in duration being 36 and in cost 9 per cent. The reasons for delay in completing both records-of rights and assessment work will be apparent from what has been written in Chapters III and IV. To these should be added about 2 months spent on census work, the heavy work in connection with acquisition of land for the canal and its distributaries and the many transfers among Naib Tahsildars which could not be avoided. New men coming from other settlements took 4 to 6 months in becoming familiar with *killabandi* methods and in the meantime the work lagged behind.

Details of expenditure are given in Appendix C. The increased revenue realized in two years will cover it, Rs. 29,356 being realizable from assignees.

There is an idea that *killabandi* is very expensive compared with revision of maps. The following statement of the expenditure incurred in some of the

recent settlements for which I have got figures will, I trust, show that such is not the case :—

Settlement.						Area of district.	Total expenditure.	Expenditure per square mile.
						Square miles.	Rs.	Rs.
Ludhiana	...	...	...	...	...	1,393	3,77,226	271
Rawalpindi	...	...	...	...	...	2,043	6,20,035	303
Delhi	...	...	...	...	...	1,270	4,46,398	351
Karnal	...	...	...	...	...	3,124	8,25,896	264
Rohtak	...	...	...	...	...	1,796	5,75,900	321
Gurdaspur	...	...	...	...	...	1,826	6,97,714	382
Gujranwala	...	...	...	...	...	2,112	4,95,927*	235

* Including Rs. 60,441 spent on *killabandi* before the settlement began.

Considering the saving to Government in future in revision, &c., *killabandi* must be considered cheap. It gives much trouble to owners at the time, but the saving of trouble, litigation and expenses of revision in the future is realized by them and the results considered very satisfactory.

99. I was in charge of the settlement from its beginning to 17th May 1913 when I was transferred to Muzaffargarh, Bhai Dalip Singh Extra Assistant Settlement Officer remaining in charge in addition to his other duties up to 31st October 1913. He was my assistant throughout, and rendered valuable assistance in the preparation of the records, partition work, determination of disputed village boundaries, straightening of boundaries on rectangular lines, correction of errors in the fixed boundary on the Chenab river and distribution of assessments. In the towns and important villages the distribution work was done by him instead of Naib Tahsildars. He revised the village administration paper and drew up the revised code of tribal customs. His honesty and impartiality inspired confidence, and I am grateful for all he did for me.

I was very fortunate in my tahsildars. M. Jamiat Singh was in charge of the Gujranwala tahsil until his transfer to district work, and his experience of *killabandi* in the Hafizabad tahsil and honesty were a tower of strength and did much to popularize *killabandi*.

M. Devi Singh in charge of Wazirabad tahsil and subsequently Gujranwala Tahsil, M. Ghulam Muhi-ud-Din in charge of the Sharaqpur tahsil and M. Nasir-ud-Din succeeding M. Devi Singh in Wazirabad, all did excellent work and deserve much credit.

Killabandi entails heavy and arduous work on Naib Tahsildars, and the success or failure thereof depended chiefly on these officers. M. Dhan Singh, M. Muhammad Suleman, P. Ladli Pershad, M. Ganda Singh and M. Mangal Singh came with previous experience, and their work was excellent. Of the new men M. Nasir-ud-din, I, S. Ghulam Ali and M. Jowahar Singh distinguished themselves. They were in charge of difficult circles where in the beginning there was opposition to *killabandi*, and it is due to their tact and exertions that the opposition was overcome and the work successfully completed. M. Abdul Salam as reader and subsequently as head clerk, and M. Ganda Singh who worked as reader and head clerk at times, rendered invaluable help, and are among the best officials I have come across. Among junior and officiating officers M. Muhammad Khan and Lala Hira Nand distinguished themselves.

100. The first three chapters and a portion of the fourth were written up by the middle of May 1913, when I was in charge of the settlement. The rest could not be taken in hand until the settlement was finished and different references disposed of. The settlement was finished by the end of October, but I was not able to get the files and information on some points till about the end of February 1914. In March and April I could not find time on account of long tours and inspection of revenue work so completed this report during May.

I, C. LALL,

Settlement Officer.

The 29th May 1914.



APPENDICES.



सत्यमेव जयते

APPENDIX A.

Glossary.

<i>Vernacular term.</i>			<i>English meaning.</i>
Abi	...	...	... Irrigated by lift from nullahs, rivers, ponds, &c.
Abiana	...	...	... Lump assessment on a well.
Bachch	...	...	... Distribution of revenue over holdings.
Barani	...	...	... Dependent on rain.
Chahī	...	...	... Irrigated from wells.
Gur	...	...	... Unrefined sugar.
Hasb arazi	...	...	... According to land owned.
Hasb Jama	...	...	... According to revenue paid.
Hasb rasad khewat	...	...	... According to revenue paid.
Jamabandi	...	...	... Record of owners, tenants and land, &c.
Kalrathi	...	...	... Sour clay with saltpetre.
Karam	...	...	... A linear measure of $5\frac{1}{2}$ feet.
Kharif	...	...	... The autumn harvest.
Khatauni	...	...	... Record made at survey of fields belonging to a tenant.
Killa	...	...	... A rectangular field.
Killabandi	...	...	... System of rectangular fields.
Maira	...	...	... Sandy loam.
Malikan Qabza	...	...	... Owners of land in possession only.
Marla	...	...	... An area unit $\frac{1}{160}$ th of an acre.
Missi	...	...	... Loam.
Mochi	...	...	... Shoemaker.
Nahri	...	...	... Irrigated from canals.
Naib	...	...	... Assistant.
Nullah	...	...	... A natural drainage channel.
Patti	...	...	... Sub-division of an estate.
Patwari	...	...	... The village official who maintains the records.
Qanungo	...	...	... A revenue official immediately above the patwari.
Rabi	...	...	... The spring harvest.
Rappar	...	...	... Inferior sand with superficial clay deposit.
Rohi	...	...	... Sweet clay.
Sailab	...	...	... Inundated from river or nullahs.
Shamlat Deh	...	...	... Joint land belonging to all the owners.
Tibba	...	...	... Sand hills.
Toria	...	...	... An oilseed.
Wajib-ul-arz	...	...	... Village administration paper.

APPENDIX B.

Showing area, crops and assessments.

	CULTIVATED AREA (1912-13).			MATURED CROPS ON WHICH ASSESSMENT BASED.			Population 1911.	ASSESSMENT.				
	Total area (1912-13).	Chahi.	Others.	Total.	Chahi.	Others.	Total.	Summary.	Regular.	Revised.	Last.	Nov.
Tahsil.												
Wazirabad ...	Acres. 298,839	Acres. 107,387	Acres. 52,278	Acres. 149,666	Acres. 86,885	Acres. 45,256	Acres. 131,060	Rs. 2,01,567	Rs. 1,67,645	Rs. 1,69,470	Rs. 2,32,638	Rs. 2,59,745
Gujranwala ..	494,013	161,056	157,063	318,119	121,173	119,399	240,572	2,91,578	2,32,781	2,49,618	3,28,612	3,82,896
Sharadpur ...	571,861	117,873	95,882	213,755	85,068	74,701	159,769	..	..	1,87,605	1,41,259	2,87,681

Budget head.	Expenditure.
	Rs.
Salary and settlement allowances of gazetted officers	75,663
A.—Office establishment—	
(1) Office establishment of assistant settlement officers
(2) Office establishment of office naib tahsildars	6,831
(3) Office Qanungos	19,922
(4) Menial establishment	25,321
Total office establishment	52,074
B.—Field establishment—	
(5) Settlement Tahsildars	22,959
(6) Settlement Naib Tahsildars	52,665
(7) Field Qanungos	70,879
Total field establishment	1,46,503
(8) Temporary establishment	73,419
Total pay of establishment	2,71,996
C.—Allowances—	
(9) Allowances to Patwaris	13,863
(10) Travelling allowance of Officers	6,730
(3) Ditto of establishment	20,694
Contingent expenditure except stationery and lithography	37,626
Stationery	8,569
Lithography	381
Total contingent expenditure	46,526
GRAND TOTAL	4,35,486